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ROYAL COMMISSION OF INQUIRY INTO CERTAIN DEATHS AT THE HOSPITAL FOR SICK CHILDREN AND RELATED MATTERS.

Hearing held 8th floor 180 Dundas Street West Toronto, Ontario

The Honourable Mr. Justice S.G.M. Grange

P.S.A. Lamek, Q.C.

E.A. Cronk

Thomas Millar

Commissioner

Counsel

Associate Counsel

Administrator

Transcript of evidence for

December 7, 1983

VOLUME 77

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1	ROYAL COMPLESSION OF	' INΩUIRY INTO CERTAIN							
2		TAL FOR SICK CHILDREN							
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4	Hearing held on	the 8th Floor,							
5	180 Dundas Street West, Toronto, Ontario, on Wednesday, the 7th								
6	_	day of December, 1983.							
7	7								
8	THE HONOURABLE MR. JUSTICE S	G.G.M. GRANGE - Commissioner							
9	THOMAS MILLAR	- Administrator							
10	MURRAY R. ELLIOT	- Registrar							
11	And Gas GG								
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13	APPEARANCES:	and the North Control of the							
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24		The Hospital for Sick Children							

(Cont'd)

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5	J.A. OLAH	Counsel for Janet Brownless - R.N.A.
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12		Heather Dawson (mother of deceased child Amber Dawson)
13 14	W.W. TOBIAS	Counsel for Mr. & Mrs. Hines (parents of deceased child Jordan Hines)
15	J. SHINEHOFT	Counsel for Lorie Pacsai and Kevin Garnet (pareths of
16		deceased child Kevin Pacsai)
17		
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1 Errata and Changes by Commission Staff: 2 3 Volume 71 - Tuesday, November 29, 1983 4 Page 5578, line 14 - should read "really cannot argue with them..." 5 Page 5609, line 16 - "hyperplastic" should read 6 "hypoplastic" Page 5715, line 6 - should read "...10 to 25 times 7 in the animal experiments..." 8 Page 5745, line 9 - ".7" should be "7.7" 9 10 Volume 72 - Wednesday, November 30, 1983 11 Page 5774, line 21 - "outlier" should be "outside" 12 Page 5790, line 8 - "5:30 at night" should read "5:30 in the morning" 13 Page 5897, line 23 - "5" should be "3" 14 Page 5920, line 19 - "inconsistent" should be "consistent" 15 - "36" should be "26" 16 Page 5962, line 4-5 - "sort of a bad" should be 17 "not a bad" 18 19 20



INDEX OF WITNESSES

NAME

HASTREITER, (Dr.) Alois Rudolf; Resumed

Direct Examination by Mr. Lamek
Examination by Mr. Hunt

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--- Upon commencing at 10:00 a.m.

THE COMMISSIONER: Yes, Mr. Lamek.

MR. LAMEK: Thank you, sir.

DR. ALOIS RUDOLF HASTREITER, Resumed

DIRECT EXAMINATION BY MR. LAMEK: (Continued)

Dr. Hastreiter, the end of the day yesterday we had been dealing with the case of Stephanie Lombardo. Can we turn now to a case which has some similarities to that, the case of Jesse Belanger. Your report of your review of that child's death is found at pages 140 to 141 of the binder. Now, you also rated this baby on the basis of your clinical review, Doctor, as having a good probability of massive digoxin overdose. You apparently considered the child's heart disease to be more severe than that of Stephanie Lombardo. You gave this baby a severity score of 8. But I take it however that on a clinical review the same elements in both cases prompted you to rate them as good probability, that is to say an abrupt onset of events leading to cardiac arrest and the unexpectedness of this death at the time that it occurred with a lack of a clear explanation as to the cause of the death. Is that fair?

A. That is correct.



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			Q.	ø		Was	there	any.	thing	else	in	the
case	of	Baby	Bela	ange	r	that	persua	aded	you	this	was	a
good	pro	babi	lity	of	di	goxin	overd	dose:	?			

The No. There is no question that the baby had a very severe type of heart problem.

However, as you indicated, I felt that the baby was reasonably stable at the time and death was somewhat unexpected.

 Ω . Now, when the discussion of this child came around at the meeting on September 13th, 1982, and that discussion is recorded at pages 9 to 10 of Exhibit 261, you essentially stated those views.

A. Right.

Q. You said the child was somewhat sick, reasonably stable, had been transferred from the ICU to 7G and then to 4A/B, died five days after surgery, was not receiving digoxin and that you would categorize the case as good, good probability?

A. Right.

Q. And again each of the physicians at the meeting, that is to say, yourself, Drs. Fay,

Tepperman, Bennett regarded this as a case of probable murder.



Now, the toxicological data that you had available to you consisted of measured concentrations of digoxin in exhumed tissue, in particular, liver and what was described rather generally as muscle.

From Mr. Cimbura's reports, Exhibit 95E at page 3 it is reported that the sample of liver tissue of autopsy after exhumation contained 253 nanograms per gram of digoxin and the sample of muscle contained 43 nanograms per gram of digoxin.

Now, that report, Dr. Hastreiter, is dated September 29, 1982. As I understand it the information as to Belanger's recorded levels was available to you at the time of the meeting on September 13th?

A. Yes.

Q. Now, that concentration in the liver, the exhumed liver had been mentioned at police headquarters on August 27, Exhibit 269 and, in particular, on the third page. May I refer you to what was said then. On the third page, the third paragraph it is reported:

"Mr. Cimbura went on to discuss the Belanger baby. This was a male baby, ly months, had been buried for 18



"months. He was not embalmed and not supposed to be on digoxin. Specimens received were liver and muscle."

Liver is reported here at 453 but I assure you that is a typographical error, it should be 253.

A. Okay.

Q. "...muscle 43, digoxin was positive. As far as numbers go, the liver level is elevated compared to fresh liver tissue. Muscle is a little concentrated. Digoxin had been found in a child where there was not supposed to be digoxin."

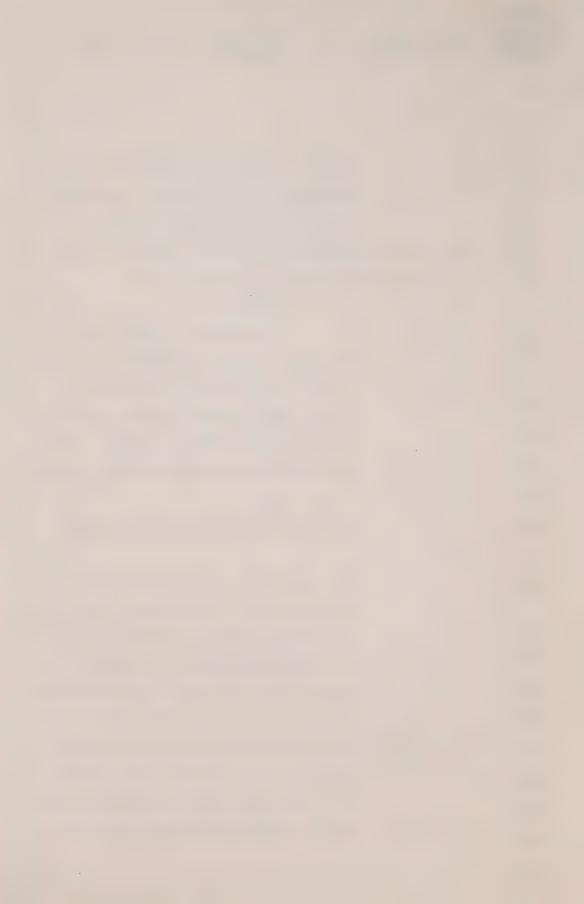
And then you are reported as having

said:

"Dr. Hastreiter said that if somebody would say that a mistake was made and the child received a maintenance dose by mistake, one dose alone would produce very low tissue levels because the child is not treated with digoxin. Here the concentrations are more or less within the therapeutic range."

Now, in saying that the concentrations

were more or less in a therapeutic range, did you



mean	that	they	were	more	or	less	wi	thin	the	range	2
that	you v	would	expe	ct to	fir	nd in	a	child	who	had	been
on a	thera	apeuti	ic re	gime o	of d	digoxi	in?)			

A. Yes. I think this applies especially to skeletal muscle. The liver I think is high, higher than what one would expect.

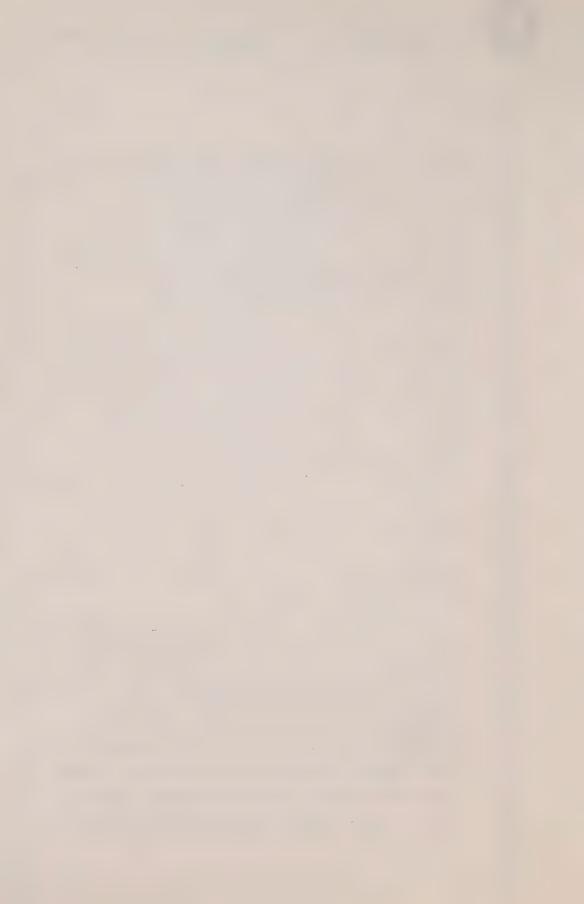
Q. All right. And again when you made the comment about the level being higher than one would expect to see from a single accidental maintenance dose, did Mr. Cimbura challenge your ability to make that statement on the basis of a reading in exhumed tissue?

A. I don't remember that he did.

I don't see any indications here that he did.

Q. All right. Are you still of the view that you are reported as having expressed at the meeting of August 27th?

A. Yes, definitely. I think we are dealing here with a baby that was not supposed to have received any digoxin therapeutically and had digoxin in his system. The other thing from a clinical standpoint which is very important is the fact that this baby had been operated on, had been transferred back to the floor from the Intensive Care area and the death occurred several days later,



I think five days after the operation.

It is very unusual for a baby to die under such circumstances because either they die earlier in the Intensive Care Unit or if they are very sick in the Intensive Care Unit they are not transferred back to the floor. So, by the time they are transferred back to the floor they are usually doing reasonably well and death is usually not expected.

I recall, Dr. Hastreiter, there was considerable pressure for space in the ICU and that this baby was moved from the ICU to 7G, which was another form of intensive care, perhaps rather earlier than people would have wished, and eventually found his way back to the floor.

A. Yes. He was transferred to 7G at first but eventually they moved him from 7G to 4A/B and that again should have been an indication that the baby was reasonably stable or else they wouldn't have done it.

Q. Okay. When we get to the meeting of September 13th, 1982, Exhibit 261, the case of Belanger is discussed at pages 9 and 10, and we have already referred to part of that, and



Mr. Cimbura's report on the exhumed specimens and the levels he found in them.

When it came to the expression of opinion or vote as to the proper category for the child you and each of the other physicians present viewed the case as one of probable murder. I'm interested in your comments. You had a plea with an explanation, as it were.

First, you said the baby was fairly stable after surgery and transferred to the regular floor and died, a comment that you have just made; second, he was not supposed to be receiving digoxin, an important consideration; but third, mirroring as I take it the comment that you had made on August 27th, the level of digoxin was high in the liver, could not have been an accidental maintenance dose.

Doctor, in light of the fact that this child was not embalmed and there is no evidence of which we are aware the child's body having been weighed after exhumation and there is therefore no way of knowing what kind of fluid loss there may have been from the body, what kind of dessication may have occurred, to what measure the concentrations in tissue may have been enhanced by dessication and how



confidently can you say the levels recorded in the exhumed tissues could not have been achieved by a single accidental maintenance dose?

I have some reservations about trying to quantitate levels in fixed tissue as well as exhumed tissues. However, I think it would be extremely unlikely and almost impossible for a level of this magnitude to be explained in any other way. I am really sorry that these bodies when they were exhumed were not weighed because weighing the bodies would have given us an indication of the loss of fluid water from the system and the amount of concentration that may have occurred for drugs such as digoxin in the body.

Q. Yes.

A. But I don't see, even, let us say, the maintenance digoxin dose had been given shortly before the baby's death and this is where you would have the highest concentration in tissue, of course it is also eliminated from tissue if it had been given earlier.

Q. Yes.

A. It would have been eliminated and the half time would be approximately the same as blood, although, one cannot deduce one from the



other. But they have been measured separately and have been found to be of approximately the same magnitude. So, it would be like a day and a half. So, every day and a half the level would be cut into half of its original magnitude.



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I just don't see first of all that one single maintenance dose, the level would have been very low to begin with. If one or two, or three days had passed since this was given it would be even lower and it would be just very, very difficult to explain. A concentration factor of 10 or 20 times what it should have been, what it would have been expected to be had a maintenance dose been given.

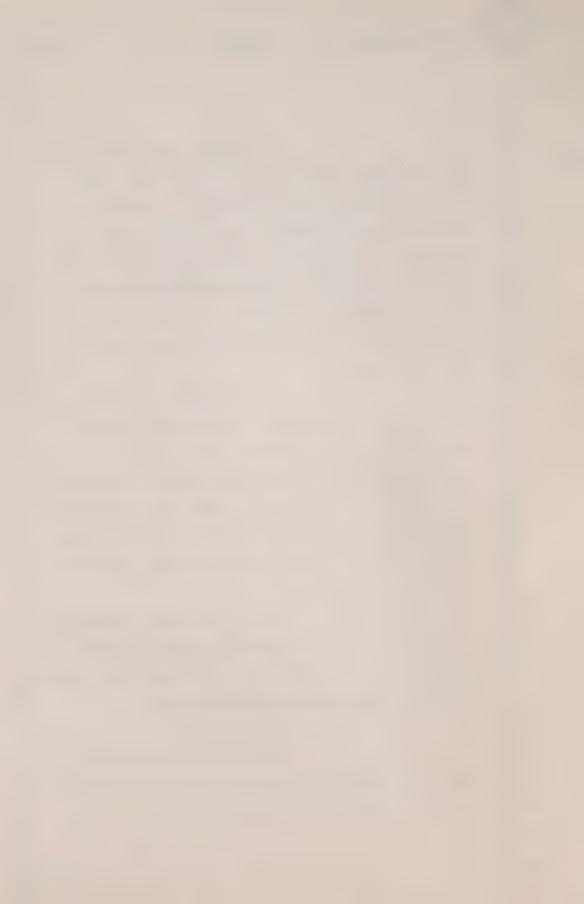
Dr. Hastreiter, I am not 0. aware of the slightest bit of evidence to suggest that any such dose was given, but I suppose one must contemplate the possibility. What if the child had received, by accident, a loading dose of digoxin, could you have been so confident in your view that these levels were greater than you would expect to find in that event?

A. No. I would not. I think it is just very difficult to give a loading dose by accident. Usually when a child is loaded the loading dose is divided into the three aliquots.

> 0. Yes.

Α. And they are given three different times. Very rarely would a total loading dose have been given at once.

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	I find it very difficult from a
practical	standpoint to have this type of mistake
made, but	I would be unable to separate it from a
therapeuti	c situation.

- Q. When you refer to a "loading dose" you mean the aggregate of the normal three administrations at the outset of a course of treatment.
 - A. Total loading dose, right.
- Q. Now, it has been my impression, and perhaps I am wrong, but it has been my impression that each one of the three installments of the loading dose itself tends to be larger than the subsequent maintenance dose that is administered.
- A. That is true, because the first loading dose is usually one-half of the total calculated. The second one and the third are one-fourth. The maintenance dose is usually one-eighth of the total loading dose, so it is more. The loading dose, even the aliquots are higher than the regular maintenance dose. So if you asked me would it be possible that just one of these doses had been given, I would say again the probability -- I would say with some confidence that this would be difficult to explain on the basis of the tissue concentration.



Q. And even if the first of the three segments of the loading dose amounting to one-half of the total had been given to this child by accident, you would still have some difficulty reconciling the tissue levels with the administration of such a dose.

A. I would.

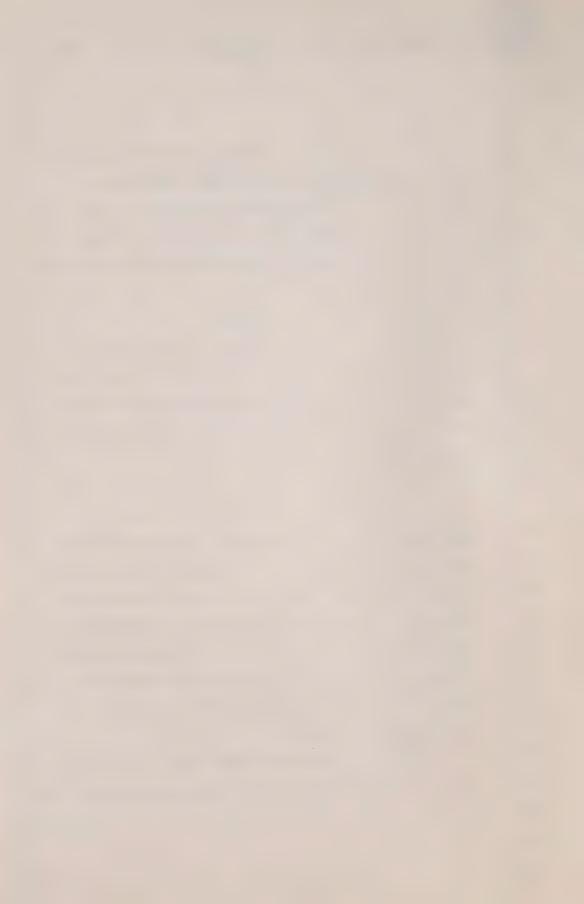
Q. I take it, Doctor, from
everything that you have said that it is still your,
opinion that the probable cause of Belanger's death
was digoxin intoxication resulting from an unprescribed
dose of digoxin?

A. Yes.

Q. I want to look now, Dr.

Hastreiter, at a few additional children of whom it was your opinion, based on a review of their clinical records, that there was a good or fair probability of massive digoxin overdose, and first the good probability group. In addition to those that we have already discussed, as I view the count, they are Babies Taylor, Shrum, Gage, Onofre, MacDonald, Gosselin and Woodcock.

THE COMMISSIONER: These are found, where are they -- this is your own compilation, I take it?



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MR. LAMEK: My own compilation, yes. THE COMMISSIONER: Could you give it

MR. LAMEK: Taylor, Shrum, Gage, Onofre, MacDonald, Gosselin and Woodcock.

And of those seven there are 0. toxicological data about only three and that as we will see of rather dubious value, Gage, Onofre and Woodcock.

I think we might be able to deal with these fairly quickly, Dr. Hastreiter. In the case of Taylor, it appears that you did not review this chart until the summer of 1982.

A. Could you tell me what page this would be on?

Q. 95, I believe, 95, David Taylor. I am not aware of you having reviewed this chart during 1981, Doctor.

No, I don't believe I did.

You apparently regarded the 0. child as having very severe cardiac problems, you scored him eight on your severity scoring.

> Α. Right.

And notwithstanding that, and I say notwithstanding that because that scoring



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presumably puts him at some risk, you rated him as being good in terms of probability of massive digoxin overdose.

> Right. Α.

And there are no toxicological 0. data on this child. At the meeting of September 13th, Exhibit 261 at Page 12, when it came time for what is called the vote you categorized the child's death as suspicious with the comment:

> "This was a baby with severe aortic stenosis; could die suddenly." And I ask you in light of that com-

ment:

"Baby with severe aortic stenosis; could die suddenly."

On what basis you had ranked him a good probability of overdose? He was severely ill and the kind of problem that could cause his sudden death, why did you regard him as good probability of digoxin overdose?

Okay. So this baby was approximately three months old; had severe aortic stenosis, and this is a very serious lesion. It is also one of the few types of congenital heart defects that could cause sudden death, unexpected death, perhaps.



However, in my notes here I say that the infant had improved a little following admission to the hospital; David died two days following his admission to the Hospital for Sick Children. So he had improved a little and appeared to be improving when the terminal episode occurred.

So even though aortic stenosis can produce sudden and sometimes even unexpected death, the probability that death is totally unexpected is small. Usually this occurs in a baby who is already having problems with deterioration clinically, going down hill and then dies. So I felt that the circumstances surrounding this baby's death was such that they warranted placing him in the good category for further evaluation. We had no toxicological data, so we don't have any additional information.

Q. I must say I am a little confused by the answer you have just given, Doctor.

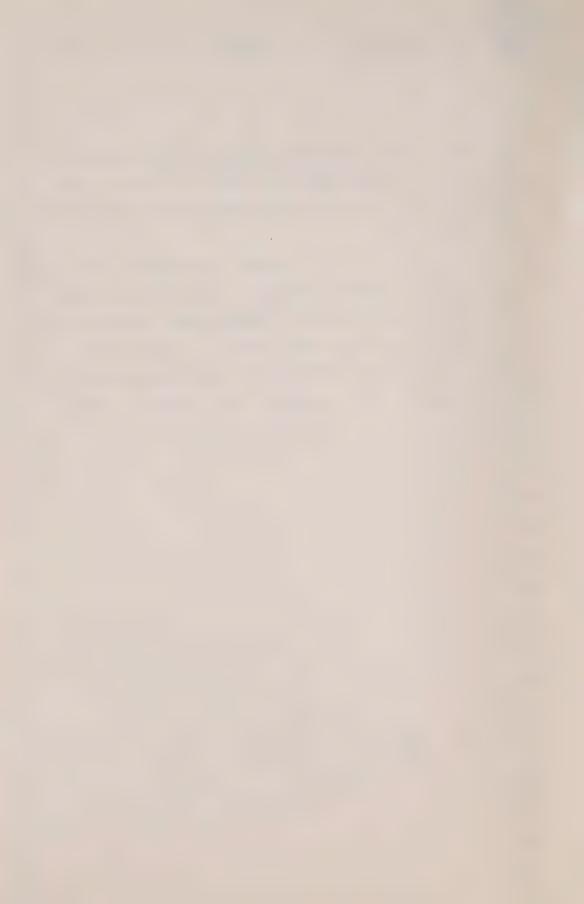
On the one hand you said that children with severe aortic stenosis may die, not only suddenly but unexpectedly, and I appreciate there may be a distinction between those two; but then you seem to say where they die unexpectedly it is where they have been having a course of deterioration and I would not have thought death was that unexpected in that context. I would



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have thought death was unexpected where, as here, the child has apparently been stable for a while. I am not quite sure that I understand the distinction you are drawing.

A. Maybe I can explain that a little bit better. Aortic stenosis is one of the very rare situations relating to congenital heart problems where you will ever hear that a child, or a baby died suddenly. Most children with other types of heart disease will die gradually, more gradually, okay, so that I think is the first explanation.





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That sudden death, especially unexpected death, is very rare still in the aortic -- even though in the presence of aortic stenosis. So the probability is already not that high that this would occur with any baby with aortic stenosis.

Q. Yes.

A. There is also a difference between older children and babies. Babies with aortic stenosis usually develop -- tend to develop signs of heart failure and it becomes sort of a chronic situation more so than in older children.

Older children may sometimes have no symptoms whatsoever and then have sudden chest pain or syncopes and die. That can happen, but not in babies.

where they do deteriorate gradually and then there may or may not be a superimposed more sudden deterioration and death. So this is the basis for my conclusions.

Q. Yes.

A. It is a method, of course, of probabilities. One can never be sure in a situation like this, but I thought at the time and I feel now that we should have looked further into this situation.



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	Q. If I were to express it this
way for	the purpose of my understanding, can you tell
me if I	have grasped the substance of what you are
saying,	Dr. Hastreiter.

In the case of a child with severe a crtic stenosis that child has a lesion from which sudden death may result. That is to say when that death does come it is not going to be a sort of long lingering event. It may well occur very rapidly.

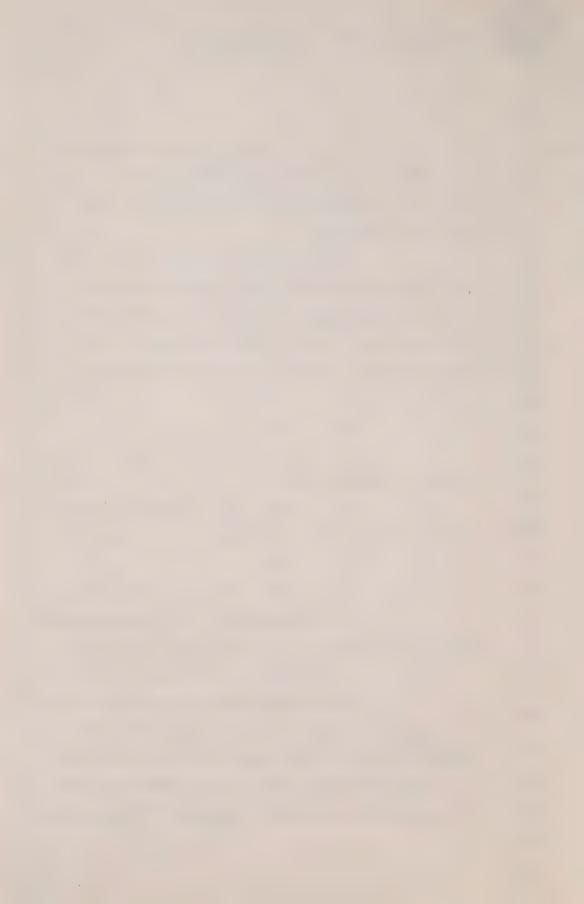
- A. It may.
- O. Yes.
- A. But it is not the usual situation in little babies.
- Q. But it may and aortic stenosis is one of the conditions in which that may happen?

A. Right.

Q. Okay. The fact that something THE COMMISSIONER: Aortic stenosis is one -- I understood from you it is one of the few --

THE WITNESS: One of the very few, yes

THE COMMISSIONER: And if you look at the charts of all these children, would there have been any others -- I don't know how many. Of course, I can't keep track and for all I know there may have been many others with aortic stenosis. Do you remember



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. .

that offhand?

THE WITNESS: I think there may have been one other but --

other diseases that you can remember and you won't be held to this that were put in the same category as aortic stenosis for that purpose?

plastic left ventricle which is somewhat related to a crtic stenosis also called a crtic atresia, and there was at least one baby I think in this group there.

THE COMMISSIONER: And they also are subject perhaps rarely to sudden death. Is that right?

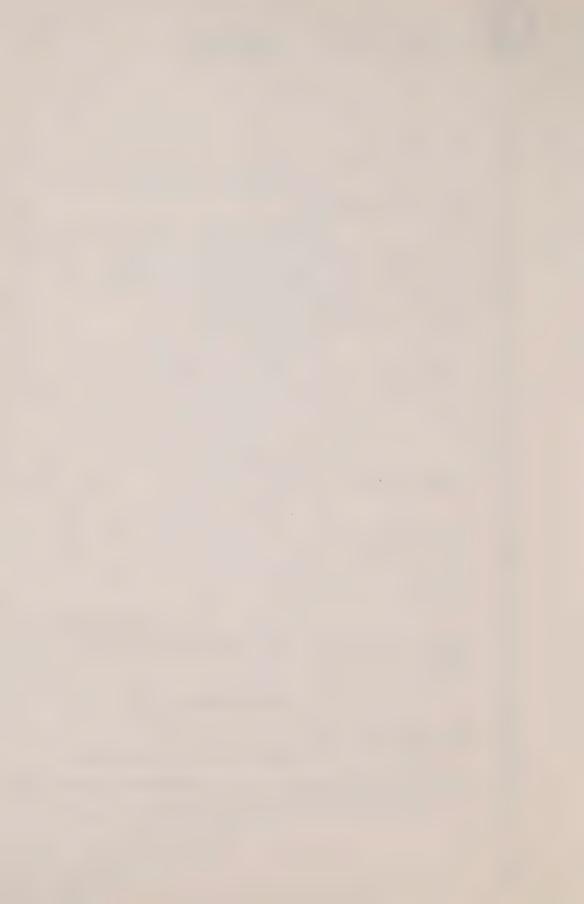
THE WITNESS: No, they are in fact -- fairly frequently they die suddenly, but they don't live very long. These babies only live a few days

MR. LAMEK: Q. Perreault, for example, was a child with hypoplastic left heart, aortic atresia and so on.

usually or a few weeks at the most.

A. These babies are expected to die very early, yes.

And then there is a group with anomalous left coronary artery, anomalous origin of the left coronary artery, and I think there was one baby



C4

child --

in the group — I don't remember the name now — with this diagnosis.

There are occasional situations of extremely severe pulmonary stenosis, usually with an intact ventricular septum, that is isolated pulmonary stenosis, where they can die suddenly. That is very rare, though.

Then there are -- there is a group of so-called cardiomyopathies, that is the primary disease of the heart muscle. The heart is structurally normal but there is disease of the heart muscle.

THE COMMISSIONER: And that is called cardio...?

THE WITNESS: ...myopathy, and this

THE COMMISSIONER: I don't want to necessarily prolong the doctor's stay here but I would be interested in knowing which of any of the children that he did look at were subject, whether often or rarely, to sudden death, of the diseases that they were suffering because it would help us when we are looking at the terminal events.

THE WITNESS: I should say, though, that the babies that we are dealing with, the group of babies that we are dealing with were mostly very sick



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babies who were already chronically ill, and this concept perhaps does not apply, at least not as purely THE COMMISSIONER: Not as much?

THE WITNESS: Not as much.

THE COMMISSIONER: Throughout the charts we see always or almost always sudden arrest -THE WITNESS: Yes.

THE COMMISSIONER: -- of the child.

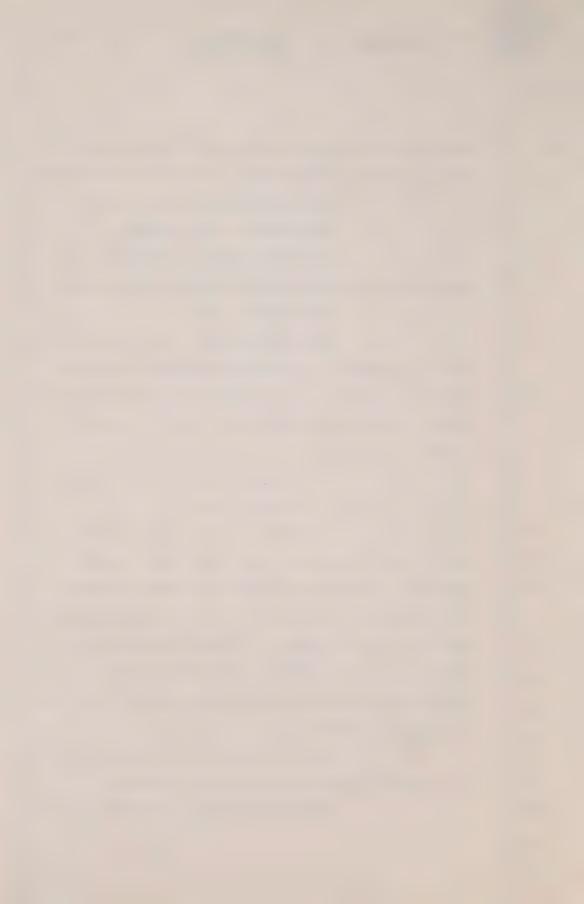
If that is unusual in the heart disease that would perhaps be something that would lead to a classification of the death as suspicious, but if it is not unusual it would not.

THE WITNESS: Well, maybe I should explain this even a little better.

I should say that these lesions
that I just indicated to you that produce sudden
unexpected death may produce these symptoms acutely
in a child that is doing well. One would not expect
this to happen sometimes. Whereas the group of
babies we are dealing here with had a terminal
sudden deterioration but they were already sick, and
this is not uncommon.

I think that is a mode of death of many babies with many types of heart disease.

THE COMMISSIONER: It seems to have



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been one of the things in the case of the Taylor baby that persuaded you there was a good chance of digoxin intoxication, the fact that the baby died suddenly, was it not?

THE WITNESS: Died suddenly when the baby appeared to be stable or improving.

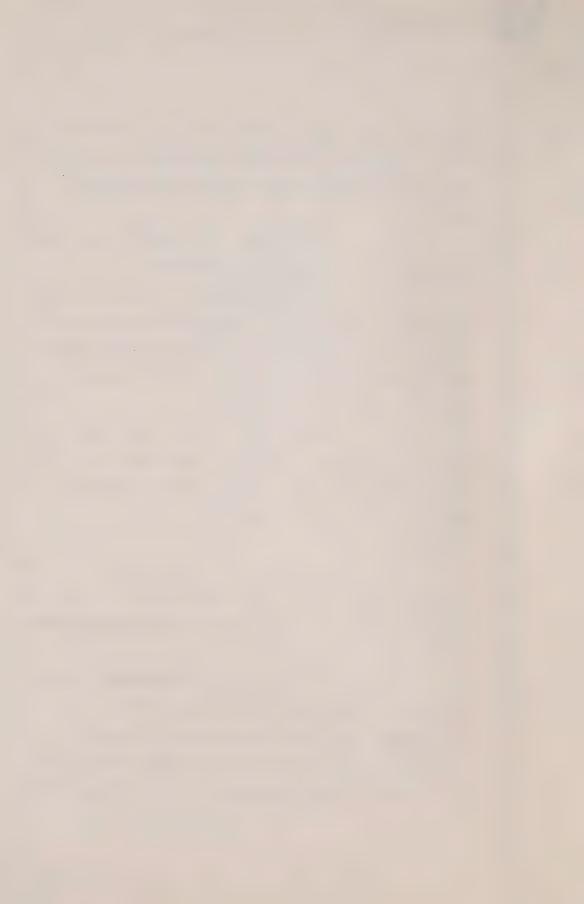
THE COMMISSIONER: If he had merely died suddenly and had not appeared to be stable or at least had had symptoms of something or other, perhaps not very serious each day, then it would not have affected you that way I take it?

THE WITNESS: Right. If he had gone downhill earlier and then suddenly deteriorated, that is the common situation. That is the way babies usually die, especially small babies with heart disease.

MR. LAMEK: Q. Dr. Hastreiter, I think it is important to understand this matter. In terms of suddenness now - I am not talking about unexpectedness.

A. Yes.

O. In terms of suddenness, that is to say the sudden onset of a terminal event, very rapid decline and death shortly after it ensuing, following up for a moment what the Commissioner asked you, I take it that suddenness per se was something that



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attracted your attention in these charts because you referred over and over in your report to the abruptness of the terminal episode?

A. Yes, especially when it is

Q. Yes:

A. Yes. If you have a baby that is already going down and then has sort of an acute insult --

Q. Yes.

A. -- you know, that could be suspicious to a lower degree.

n. Yes.

A. But when a baby is doing well and then suddenly deteriorates or is improving and suddenly deteriorates, I think there is a difference.

incorporating the second element to the unexpectedness, are you not? Let's just stay with suddenness for a moment. Even the abruptness itself seemed to attract your attention. It may be that upon looking at it you decided that suddenness itself was not sufficient cause for suspicion in all the circumstances. But the very fact of abrupt onset of terminal episodes seems from your report to have attracted your attention.



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You have remarked upon it. Is that fair?

A. That is fair.

Ω. Then the question becomes whether that abrupt episode was one that was to be expected or not, and if as you said it followed a declining course, if the child was clearly deteriorating from the chart, then the suddenness of the final event becomes a matter of much less concern I take it?

A. Right.

Ω. But if there is suddenness combined with what you believe is unexpectedness, that is to say nothing in the period preceding the onset of the terminal events gives you reason to expect that it is about to happen?

A. Right.

Q. Then it becomes an unexpected and sudden event and gives rise to a level of suspicion in your mind?

A. To a higher level of suspicion,

yes.

O. Yes.

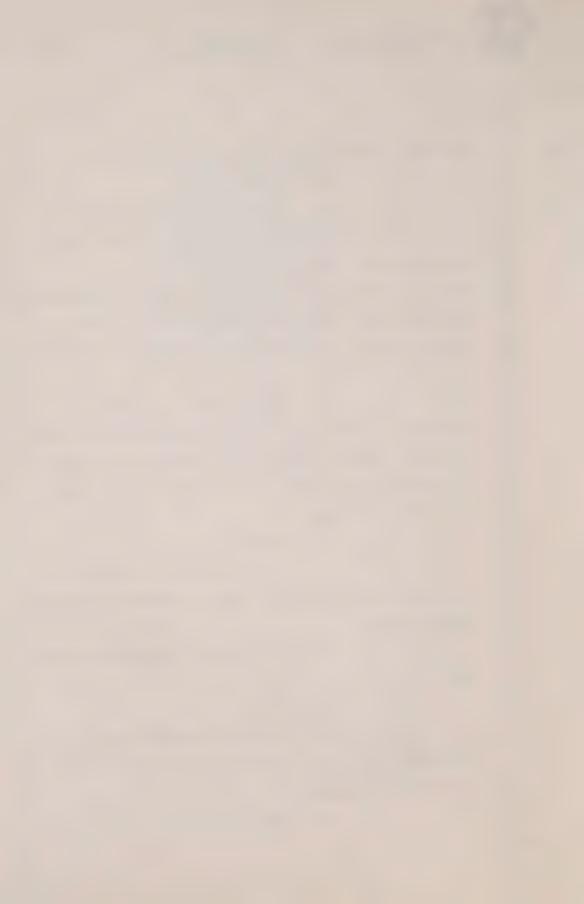
A. I think the suddenness per se helps, but I am sure you heard other testimony here about the way babies die.

Q. Sure.

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	Α.	And that	they	die	from	other
conditions,	and it is	not infred	quent	for	them	to
have a sudde	en final ep	oisode, who	ether	they	are	hypoxic
or lose bloo	od or have	heart fail	lure o	or an	arr	nythmia.

Q. Okay. And therefore when, in the meeting of September 13th you said of David Taylor that his lesion was one which could produce his sudden death, it wasn't the suddenness of the death that caused you the level of suspicion necessary to call it a suspicious death, it was rather the unexpectedness in the clinical setting in which it occurred.

A. I would say the suddenness combined with the unexpectedness really becomes a more powerful indication or marker.

O. Yes.

A. I should indicate again the group that I listed just a few minutes ago saying that in these groups sudden deaths is more prone to occur. I should explain that. Sudden deaths in these groups may occur without any previous symptoms. The child may be doing well and, poomp, suddenly die, and this is what I was really referring to, okay.

O. Dr. Hastreiter, are you



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still of the view that the circumstances of David
Taylor's dying and the manner of his dying give rise
to a suspicion that digoxin was involved in the death?

A. Yes.

Q. Okay. And would you still, on the basis of the clinical information, regard it as a good possibility that the child died as a result of digoxin overdose?

A. Yes.

Q. And next on the list is Dion Shrum. Again, we are lacking any toxicological information here. Again we report apparently speaking of a severely ill child. You rate the severity as 8 on your scale of 1 to 10.

A. What page is that, please?

Q. Shrum is - now that we have an index we can find it very quickly - page 106.

You remember, Doctor, this was a child who died approximately three hours after returning from the catheterization lab. He had had a couple of episodes of bradycardia in the cath lab. Can you tell me what in this child's clinical picture qualified him for a good probability rating?

A. Yes. He was almost three months old and had a total anomalous pulmonary venous



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connection. That is a very severe lesion. He had a cardiac catheterization performed on the day after his admission to the Hospital in the morning and a balloon atrial septostomy was done. The atrial septum was ruptured to allow improved mixing of blood or improved supply of blood to his systemic circulation.

In the cardiac catheterization lab
the baby had two episodes of bradycardia. That's
not terribly unusual for little babies who undergo
this procedure, cardiac catheterization, because
the manipulation of the catheter inside the heart
can do this, plus the fact that perhaps the baby
was somewhat hypoxic and was already quite sick at
the time, that contributes to it.

Q. I take it on that point,
Dr. Hastreiter, you are not suggesting any possible
connection between those episodes of bradycardia
and some prior digoxin problem.

- A. No, I'm not.
- Q. All right, thank you.
- A. Now, three hours following

 the cardiac -- no, I should start with the immediate

 post cardiac catheterization period. Following

 his return to the ward the child became progressively



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more tachypneic and had increased respiratory
distress. Now, that is an indication that the baby
is going downhill, is deteriorating, no question
about that. Three hours following the procedure
the baby developed an irregular heart rhythm and
was found to have complete heart block. Now, that
I find hard, difficult to explain because heart
block is not uncommon following a cardiac catheterization but it occurs immediately. It is related
usually to manipulation of the catheter inside the
heart hitting the AV conduction system and damaging
it temporarily producing the heart block. It would
be somewhat unusual to expect heart block to occur
several hours later and I have no explanation for
that.

Shortly thereafter the baby developed a pulmonary arrest and could not be resuscitated. I have another note here saying that return from the laboratory at 16 hours, and then at 1845 developed a complete heart block. At 19 hours had a seizure, became very bradycardic with a heart rate of 50 and an arrest was called and he was pronounced dead at 1945 hours. I think that this was a very sick baby, unquestionably.

Problems such as this following a



cardiac catheterization are not very unusual, they occur in a sick baby. However, the type of problems that the baby had, namely, complete heart block, this arrhythmia developing suddenly several hours later, I think has to be looked into. That was my feeling.

- Q. And indeed the good probability rating that you gave him, as I understood what you have told us so far, really means that we have got to look into this one.
 - A. Right.
 - Q. This is one to look into.
 - A. This is all it means, really.
- Q. Because there may be unexplained matters in the clinical picture that could be the product of digoxin toxicity.
- A. Yes. This rating, the good rating indicates exactly that, that we should pursue this because it is something possibly unexplained.
 - O. Yes.
- A. The fair rating, all it means is that we cannot totally exclude this baby because there may still be a small element of suspicion there.
 - O. Now, the meeting of September



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13th on page 11 of Exhibit 261, your index of suspicion was apparently a little higher than that of your physician colleagues. You regard this as a suspicious death, Dr. Fay didn't regard it as very suspicious and Drs. Bennett and Tepperman regarded it as low suspicious. But I take it there is not a great deal of territory between those different views, is there?

A. I don't think so.

O. No.

A. But it shows that this was sort of an almost borderline situation.

Q. Are you able to form any judgment other than that which you formed and expressed back in 1982 about this child, Dr. Hastreiter. There is no toxicological information.

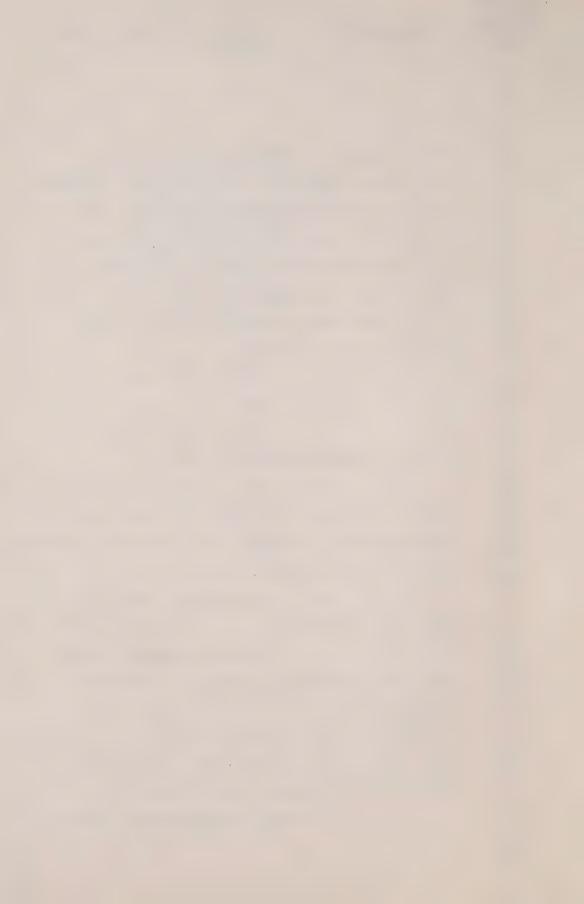
A. No, because I have no additional information.

Q. You still regard it as one where there has to be a suspicion of digoxin involvement?

A. Yes.

Q. All right. Brian Gage is the next child and him we find at page 117.

I confess, Dr. Hastreiter, I am not



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at all clear about your clinical assessment of how sick this baby was. You gave him a severity score of 6, which doesn't sound terribly horrendous, but at the meeting of September the 13th, Exhibit 26l on page 10 you are reported as saying that this was a blue baby, very sick, and you say:

"...it is one of these controversial situations where the infant could have died naturally,..."

Which I rather read to mean the death could have been caused by his clinical condition.

Now, am I having some failure of perception in seeing some sort of conflict between your statement "Blue baby, very sick", "could have died naturally" and you gave him a severity rating of 6.

A. Well, I think perhaps I should explain that for the severity rating of the lesion one has to take into consideration the fact that this is a fixable lesion. It is a lesion where the prognosis is actually pretty good, you know, if the baby survives the initial episode of surgery and so forth.

Q. Yes.

A. But the ultimate prognosis is



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24 25 Good. This was part of my basis for grading the baby. The baby was sick, there is no question about it.

0. Okay. So, what we have been calling a severity rating is a bit of a combined severity and prognosis with treatment rating.

> Α. Right.

Okay, that has helped me to understand what looked like a disparity.

What was there about this child's clinical picture that caused you to rate his death as a good probability of massive digoxin overdose?

Α. Okay. This baby was about a week old when he was first admitted to the Hospital and he had a cardiac catheterization shortly thereafter, had a balloon septostomy again. Now, this time the septostomy is done for improved mixing of the blood because the baby was probably very cyanotic, we know that he was because we have the blood gases here pO2 of 24, that is very low, was a little ascidotic too, pH7.23. He was given a prostaglandin infusion which helps these babies. It is a little controversial but it often helps.

The infant was then started digoxin



and aldactazide. Oh, following the catheterization the baby developed an acute tubular necrosis. That is a serious problem, that is an acute injury to the kidney and sometimes can be fatal. However, the indications are that the baby recovered from that and improved. In fact, they scheduled surgery for 25 days, or 20 days later, I forget exactly. I think he was scheduled - yes, for the 25th and the cardiac catheterization had been done on the 5th.

So, they could not have scheduled him shortly or immediately after the catheterization because of the renal problem. So, they would have to wait until that problem cleared. This could probably take a week or even two weeks sometimes.

Q. Yes.

A. But the fact that they scheduled the baby for so much later I believe is an indication that the baby was reasonably stable or else they would not have waited, unless the baby was so sick.

Q. Was so sick they couldn't operate on him.

A. Yes, they couldn't take him to the operating room. This is perhaps something



that may be -- could we look at the baby's chart, please.

Q. Yes, of course.

THE COMMISSIONER: This is Brian

Gage?

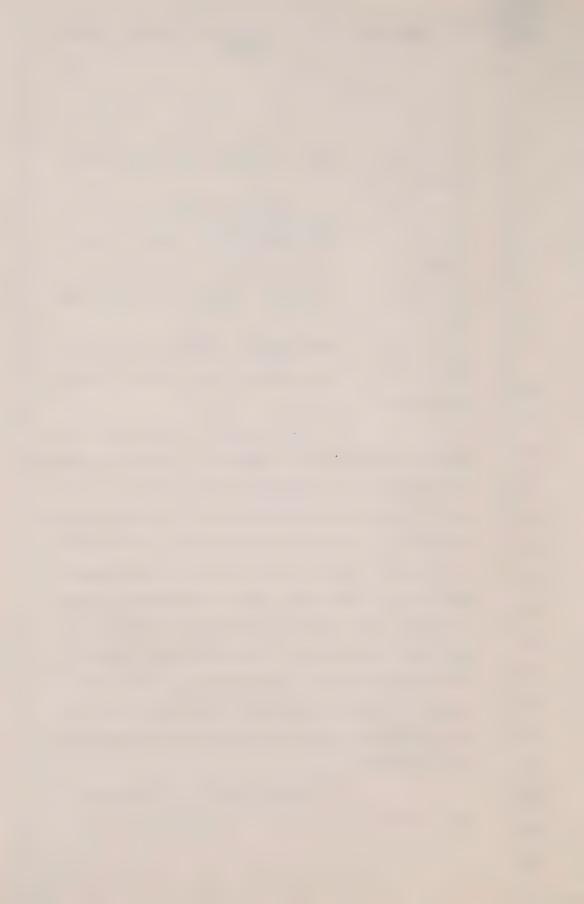
MR. LAMEK: We are looking at Gage,

yes.

THE WITNESS: While we are waiting for the chart I could perhaps just proceed with my notes here.

So, the baby had, on the day of his demise, the baby had an episode of vomiting associated with bradycardia, decreased respiratory rate and vascular collapse and then this is followed by arrest and death. The time of the terminal episode was 3:20 and the baby died at 4 o'clock. The autopsy was not very revealing, there was no obvious cause of death. There was a small infraction of the papillary muscle, but I don't think that accounts for the baby's death. The pathologist felt that death was probably related to hypoxemia, that is, lack of oxygen in the blood, and that is basically the situation.

Let me just look in the chart here for a second.



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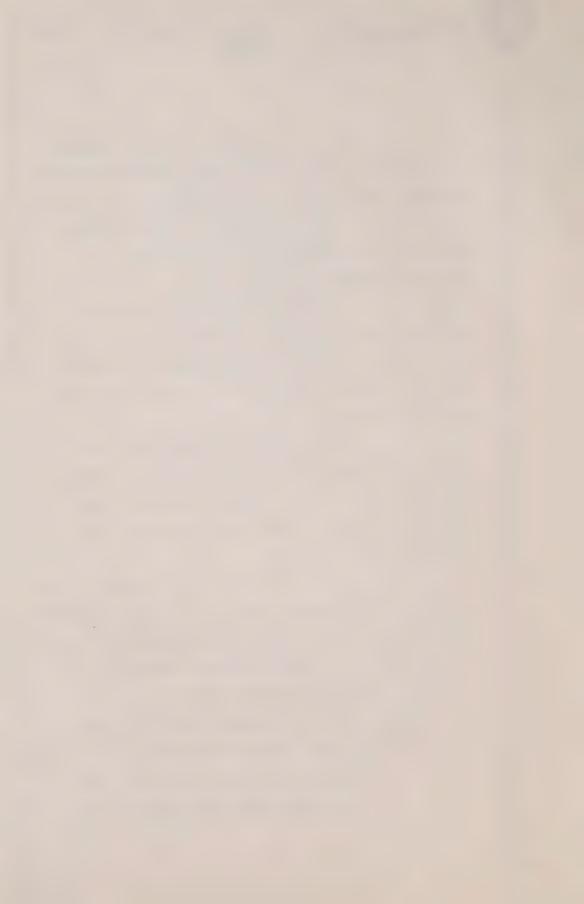
I think the indications are Α. that this baby, following the cardiac catheterization procedure, the baby had this acute episode of renal failure. I don't know what they call acute tubular necrosis, but recovered, this is described as a transient episode in several cases.

The baby remained quite cyanotic, that means that the balloon septostomy really did not produce the result that one would like to see. and that happens sometimes, and for this reason the baby would require further surgery.

The baby also had problems with feeding; had heart failure; vomiting; and other problems, but it doesn't appear that any of these problems were really life threatening until this terminal episode occurred.

Dr. Hastreiter, maybe we can't place too much emphasis on the interval that occurred between the catheterization and the proposed surgery. If you look at the discharge report on Page 17 of the chart, it appears from the final paragraph:

> "While the child was on the floor, over a period of approximately 20 days, it became apparent that the child's balloon atrial septostomy was not



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sufficient in that he required a Blalock-Hanlon atrial septectomy to increase his arterial saturation." So some time within that 20 day period

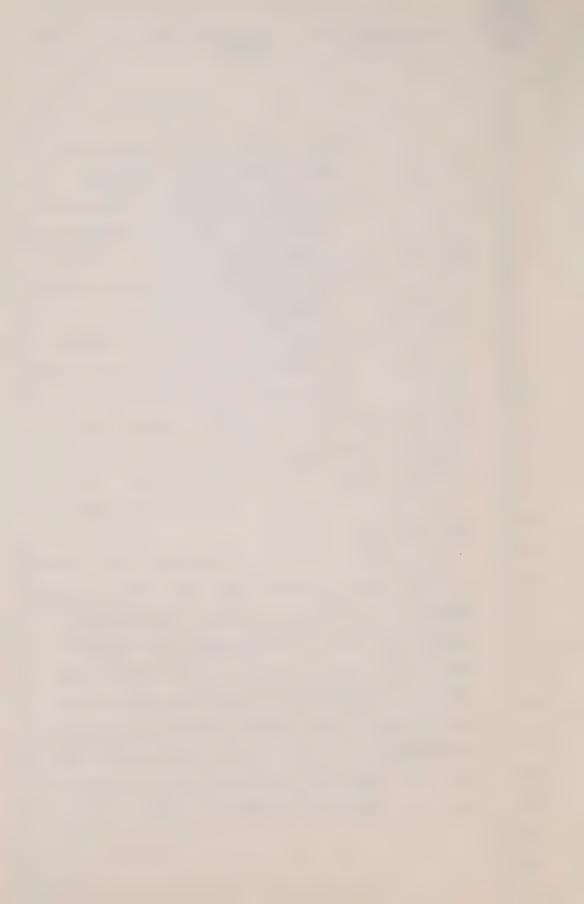
that realization dawned; and if you look at Page 83, which is the nursing department's pre-operative checklist, there is a rather interesting notation:

> "Space became available for surgery, so parents were notified last evening that their baby would be operated on."

It may therefore have been that the surgery was scheduled on fairly short notice and they grabbed the first available opportunity in the OR.

Yes, but that should not take Α. more than a few days.

No. I quess what I am suggesting, though, is that one cannot assume that the period from September 5 to September 25 suggests that he was viewed by the hospital staff as being in no urgent need of the surgery, it didn't become apparent until some time within that period that they should conduct surgery, and then they seemed to have seized the first available day in the OR. I don't think there is anything that hugely turns upon it, I am just not sure that we can place any particular emphasis on it as





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indicating stability, that's all.

A. Yes. But you see, the usual procedure for the ballon septostomy, the balloon septostomy is performed to increase the oxygenation of the blood.

Q. Yes.

A. And so immediately after the balloon septostomy you measure the PO2's in the blood, and if they are below a certain level that you are concerned about, then you think of surgery.

 Ω . You know you have to do something else.

A. It doesn't take that long to realize that.

Q. I take it though that your rating of this child as showing a good probability of digoxin overdose was essentially that although he was sick, was a blue baby and so on, he did not appear at the time that he died at imminent risk of dying.

A. Yes, that was my feeling.

Q. And that and his death in that context called for an explanation which did not appear from the chart, I take it.

A. Right.



Q. Now, we know there were rather sparse toxicological data that eventually became available on this child from his exhumed tissues, and they are found in Exhibit 95D at Page 4.

"Essentially (something called)
muscle reported to be right and left
thigh muscle; there was a trace of
some digoxin like substance (for NG/G)"
THE COMMISSIONER: I'm sorry, you said

95E, was it?

MR. LAMEK: I am sorry.

THE COMMISSIONER: 95 and the letter,

please?

MR. LAMEK: D, D as in Donald.

THE COMMISSIONER: My D there is only

one page.

MR. LAMEK: I'm sorry, E, you're absolutely right, E as in egregious or E as in error, Page 4.

Q. The muscle tissue very revealing in terms of concentrations; the three samples of material from large bowel of solid material and fluid and contents of small intestine are reported as total digoxin in the material. Then there is something that is reported to be serum, taken just





prior to August 11th, which would be a couple of weeks prior to the death, I am sorry, some considerable time prior to death and that contained 1.6 nanograms per millilitre of some digoxin like substance.

I take it that those results were of little or no help in assessing this case, Dr. Hastreiter?

That is true.

Q. And so at the end of the day does your rating of "good probability" have any base other than the somewhat unexpected timing of the death?

A. No, that is basically it.

Q. At the meeting on September the 13th, at Page 10 over on to Page 11, again your index of suspicion appears to have been a little higher than that of your colleagues, suspicious death as opposed to low suspicious, and in Dr. Tepperman's case minimum suspicion.

A. Right.

Q. You are still of the view,
Dr. Hastreiter, that this was a death in which you
had to suspect the possibility of overdose of
digoxin?

A. Yes.

Q. Can we move on to John Onofrey,



please. Here a child with a severity rating of

5. There is some small toxicological information
that I will come to in a moment, and you rated

Onofrey as having a good probability again, Page 130.

"Good probability of digoxin overdose."

And again your index of suspicion appears to have been a little higher than that of your colleagues. At the meeting of September 13th, Pages 12 to 13 of the minutes, your opinion was, "probable murder." The others were, "suspicious death", other than Dr.

Tepperman who thought, "highly suspicious death" came a bit close to you.

- A. Yes, that is true.
- Q. What is there about this child that prompted that high level of suspicion on your part?
 - A. On clinical grounds.
 - Q. On clinical grounds first.
 - A. Okay. This baby was about

two and a half weeks old at the time of his death, but he had been admitted at one day of age and he had a cardiac catheterization shortly following, I think on the day following his admission, which revealed that he had a severe, extreme type of tetralogy of Fallot, that is, a large ventricular



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septal defect, and pulmonary atresia, complete atresia; the pulmonary artery outlet was completely closed off and the pulmonary arteries were small, the branches. So basically that was the lesion, it is a very severe lesion.

He was given a prostaglandin infusion and was operated on on the 24th, that is two days following his admission to the hospital. He had a shunt operation performed, a right sided Blalock-Taussig. The post-operative course was characterized by some irregular ectopic beats. digitalized but the digoxin was later stopped. 6.12, that is about two weeks following his operation the baby developed possible renal necrotizing enterocolitis and was treated as such with nothing by mouth, antibiotics, etc. He remained stable, relatively stable, had a slow and variable heart rate which ranged from 42 to 100 per minute, the 40 is certainly a little bit slow. But then he arrested rather suddenly on the 12th at 3:20 a.m. and died at 4:10. He also had when the diagnosis of necrotizing enterocolitis, when this was made, a small gastrointestinal hemorrhage, he was bleeding a little bit from the GI tract.

Let's see, an autopsy was performed



confirming the diagnosis and it showed no other reasons for his death. In other words, the child's main problem following his operation really had been the GI problem rather than the heart. He had been relatively stable from a cardiac standpoint except for this arrhythmia which was not considered a very serious problem. Then he deterioriated rather suddenly, several weeks, about two and a half weeks later and died. This was the reason for my grading him as a good possibility, good probability.



	Ω.		Did you,		doctor, in yo		ur revie		
of	this	chart	look	at	the	final	autopsy	report	that
was	s con	tained	in it	t.?					

A. I am sure I did but maybe I should look at it again.

Q. Perhaps you could refer to just a couple of things in it, please.

THE COMMISSIONER: Which one is this?

MR. LAMEK: This is the Onofre chart.

MR. SCOTT: Mr. Commissioner, I

wonder if before the break I could get an opportunity to raise a housekeeping matter?

THE COMMISSIONER: Yes.

MR. SCOTT: Not now, but if you would just keep it in mind for either before the break or shortly after.

THE COMMISSIONER: Yes. Well, I will do my best'but if we forget will you remind us again?

This is something you want to do openly I take it?

MR. SCOTT: Yes.

THE COMMISSIONER: Why not do it now and then we won't forget.

MR. SCOTT: All right. I am not certain whether Dr. Hastreiter has read the evidence of



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Dr. Rowe and the other doctors at the Hospital who treated these babies. I presume he has not.

THE WITNESS: No, I have not.

MR. SCOTT: I think out of convenience, and I don't know precisely how long the list of babies is that we are going through, but there are obviously going to be ten or twelve or fifteen that he will have dealt with by the end of this exercise.

Before I cross-examine, and in order to make it as short as possible, I would like to arrange a way in which Dr. Hastreiter could read that evidence instead of my having to read it to him, which would keep me here cross-examining for four days.

THE COMMISSIONER: It would take -
I am afraid it would take Dr. Hastreiter quite a while
to read the evidence of Dr. Rowe and all of that
because he was in something like 16 days.

MR. SCOTT: It will -- well, you know, it depends on how many babies, but I am going to have to ask him...

THE COMMISSIONER: Could you perhaps indicate which ones you have most in mind?

MR. SCOTT: I can produce but it will take him some time to read that, a note of where the evidence is and a summary of it.





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all.

THE COMMISSIONER: We can do --

MR. SCOTT: What I am going to consider asking him is to what extent he differs, if at all, with Dr. Rowe's opinion, and therefore I want him to be certain he understands the evidence that Dr. Rowe gave.

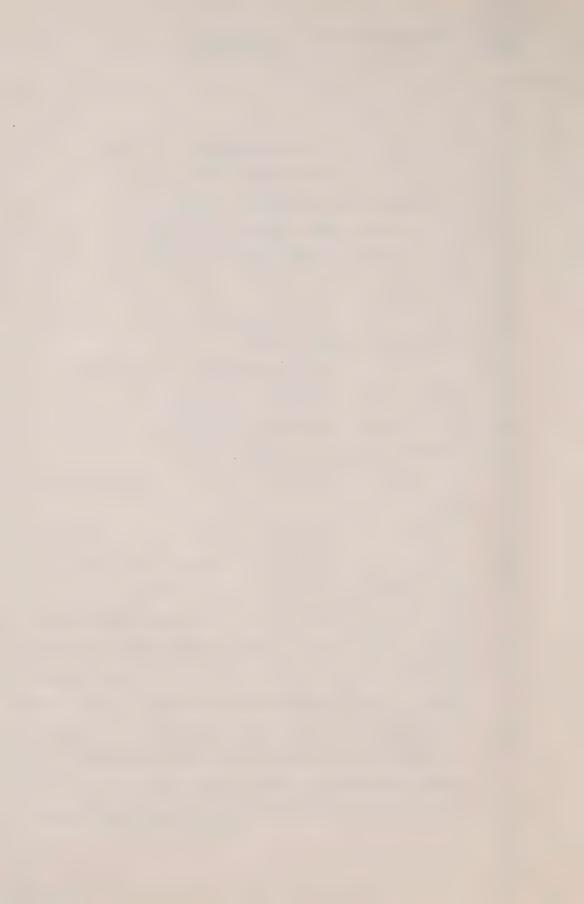
It is a practical dilemma that can be resolved in some fashion.

THE COMMISSIONER: Well, I don't know. I don't know whether it is possible. I don't know whether it is physically possible for Dr. Hastreiter to read Dr. Rowe's evidence --

MR. SCOTT: He won't have to read it

THE COMMISSIONER: No.

MR. SCOTT: I am not even asking him to read the cross-examination particularly. If we can decide the babies that he is going to deal with, I think I can sense who they are from this meeting of September 13th, then if he can read Dr. Rowe's evidence because I really would like him to say, I disagree with Dr. Rowe about that or I agree with him, or I share his concern but I focus on this rather than that, because the evidence that you have is not going to be of much assistance to you if the issues aren't joined



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THE WITNESS: I think it would help

me also in knowing what Dr. Rowe had to say.

MR. ORTVED: Well, Mr. Commissioner,

I share Mr. Scott's concern and if he had not risen

I probably would have. I think what we should do is

probably put together a compendium for Dr. Hastreiter

in that fashion.

six weeks.

portions.

you a solution?

Hastreiter finish.

THE COMMISSIONER: Well, doctor, we are talking about your time now --

MR. SCOTT: Therefore I would ask you either to have that done or to defer his cross-examination until it could be done.

THE WITNESS: I will be glad to do it.

I think probably --

MR. SCOTT: Just be careful before you say. You haven't seen --

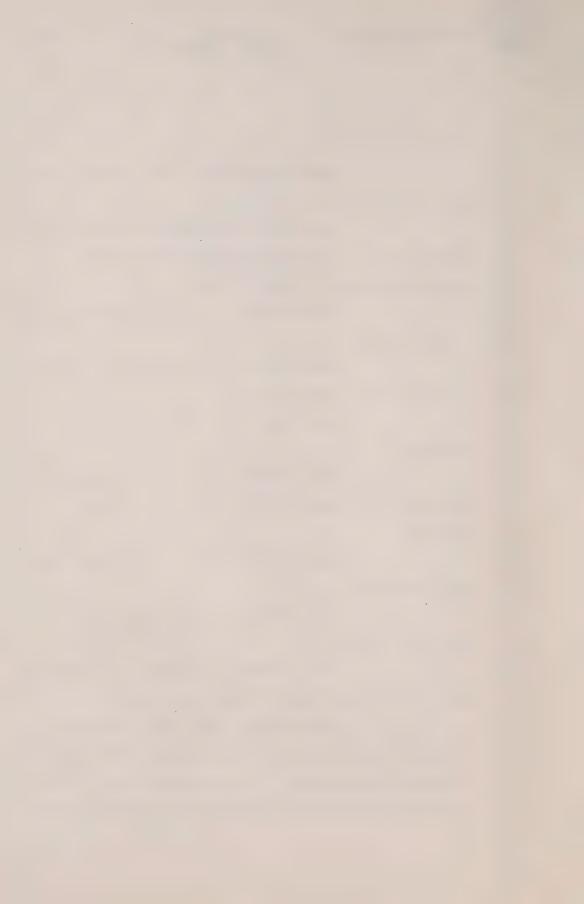
MR. LAMEK: Dr. Rowe was here for

THE WITNESS: No, I understand.

Maybe there is a way of maybe selecting specific

THE COMMISSIONER: Mr. Ortved, have

MR. ORTVED: I will let Dr.





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of those cases that Mr. Lamek will touch that will consolidate Dr. Rowe's evidence, to make it quite simple for him to review.

THE COMMISSIONER: The problem might be solved as far as time is concerned because I think Dr. Hastreiter has already been warned of the possibility of coming back next week, has he not?

MR. LAMEK: We have already discussed

THE COMMISSIONER: I don't think there is any way of avoiding that, Dr. Hastreiter, and it is quite possible that you and Mr. Scott will not be reached by tomorrow afternoon. It is quite possible that some of the others --

MR. ORTVED: Especially bearing in mind that we are not sitting for a full day today.

THE COMMISSIONER: That is right.

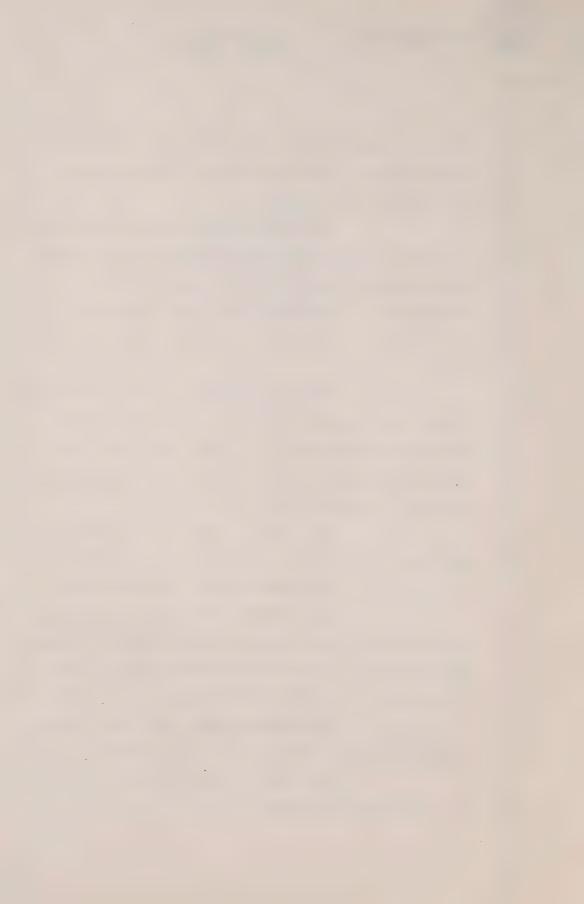
MR. ORTVED: But I think if we were to put together that compendium of Dr. Rowe's evidence vis-a-vis those cases, his evidence in chief, then I think the matter could be considerably shortened.

THE COMMISSIONER: Well, all right.

Work on it and we will see what the situation is.

MR. SCOTT: Another point, isn't

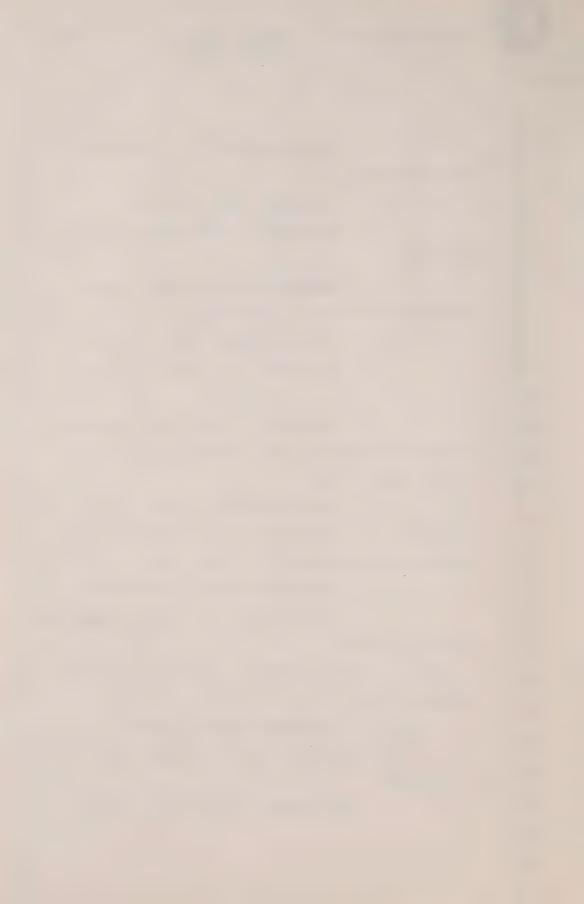
the swearing in tomorrow?





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F6 2 THE COMMISSIONER: Is it tomorrow? It is not today? 3 MR. LAMEK: Don't go today. 4 MR. SCOTT: I mean there may be one 5 every day. 6 THE COMMISSIONER: There may well 7 be another one Friday. I guess there is only one and 8 it is tomorrow. I had Wednesday fixed in my mind. MR. LAMEK: It is the 8th, I promise 10 you. MR. SCOTT: I hope the Commissioner 11 will watch that there isn't a swearing in for the 12 Court of Appeal seats. 13 THE COMMISSIONER: Yes. Well, I think 14 it is likely to take place. I get frostier and 15 frostier looks every time I go over there. Can you give us any indication --16 Miss Forster, are you cross-examining 17 in this instance? 18 MR. FORSTER: Yes, I am. I think 19 possibly an hour. 20 THE COMMISSIONER: An hour? 21 And how long do you think you will 22 be, Mr. Hunt? MR. HUNT: I would think somewhere in 23



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the neighbourhood of half an hour, 45 minutes.

THE COMMISSIONER: Mr. Brown?

MR. BROWN: I will be about the

same; no more.

MR. YOUNG: I would expect to be no more than 45 minutes.

THE COMMISSIONER: Are you ready to go, Miss McIntyre, or would you be ready?

MS. McINTYRE: Since I was not here yesterday, Mr. Commissioner, I was going to ask to defer until tomorrow so I could have an opportunity to read the transcript.

THE COMMISSIONER: Well, I don't think we will have much trouble fixing that.

How long do you think you will be?

MR. LAMEK: I will be through

shortly after the break this morning.

THE COMMISSIONER: Yes. Well, I doubt if we will have a problem about either of you gentlemen being reached today. It might be tomorrow, but perhaps we can put the parents on and keep you out of action until next week, which will solve that problem.

But anything that you can produce apparently, doctor, or do the best you can.



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THE WITNESS: I will be very glad to

do it.

THE COMMISSIONER: All right.

Yes, Mr. Lamek.

MR. LAMEK: Q. Dr. Hastreiter,

I just ask you to turn to the final autopsy report in the Onofre chart, page 32.

A. I'm sorry, page?

Q. Page 32. The passages I am particularly interested in are on page 33.

In the middle of the second paragraph on page 33 there is reference to the shunt that had been surgically installed:

"A Blalock-Taussig procedure done a few weeks before death was patent with a narrow anastomotic diameter of 2 mm."

Can you tell me first whether you

regard that as an adequate shunt?

A. No, it is small.

Q. Very small. I'm sorry, you said "small"; I said "very". Is it adequate for the purpose?

A. No, it would not produce adequate oxygenation of the blood.

 Ω . I take it that having read the



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chart you were aware that the shunt which had been inserted was of a rather inadequate diameter?

A. Yes, but the best index is really the blood gases and we should probably look for them.

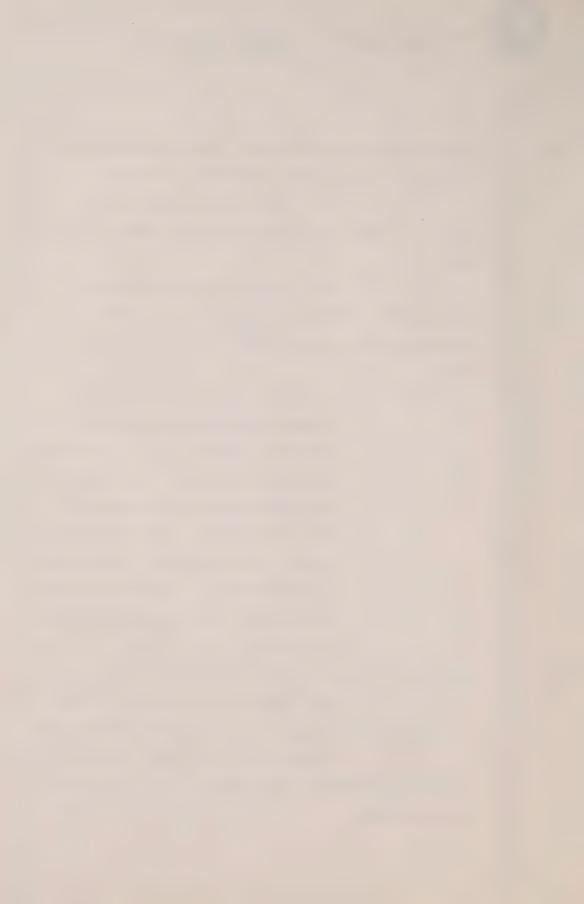
Q. Could we just go on for a moment here? Certainly the pathologist echos the views that you have expressed in the final paragraph there:

"Death in this case was somewhat sudden and unexpected being manifested by sudden onset of bradycardia and cardiac arrest. In view of the subsequent cases on this ward of digoxin overdose, this must now be raised as a possibility but there is no confirmation of this since at the time of the gross autopsy it was not considered."

And then the next sentence but one:

"In this patient there are several other even more likely precipitating causes of death, namely, an arrhythmia..."

Is that arythemia or arrhythmia? It is supposed to be arryhthmia?





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Α.	It	is	suppos	sed	to	be
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arrhythmia.

O. That is what I thought.

"...and/or sepsis, and/or an enteric infection."

Dr. Hastreiter, from your view of this chart do you agree or disagree with the statement that those are other more likely precipitating causes of death in this child than digoxin toxicity?

A. I find it very difficult to compare because they are precipitating causes, possible precipitating causes. However, for instance, an arrhythmia does not usually occur suddenly. There is usually a reason for it. It is usually preceded by smaller episodes or less severe episodes before they become so severe that they will kill a baby.

Q. Of course -- in that context, forgive me, a couple of sentences after I stopped reading, the pathologist notes:

"Some problems with odysrhythmia were noted in the period immediately prior to death."

So there may have been some antecedent episodes of dysrhythmia?

A. Yes, but there were no



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indications that anybody was very seriously worried about his arrhythmias, that they could be lethal or so.

Q. Yes.

A. With regard to sepsis or infection I would say that again you usually have some pre-monitoring signs. You have, you know, slow deterioration or you may have -- occasionally it may appear all of a sudden, but it is unusual. But I don't see any other indication or confirmation of the diagnosis of sepsis which is usually possible by cultures or other bacteriologic studies.

Q. Well, certainly there had been the incident of the bloody stools, had there not?

Does that suggest infection of some kind?

A. The bloody stools were attributed to -- this was earlier. It was I think a week and a half earlier or maybe a week.

- Q. About a week prior to death, yes.
- A. I believe, and was attributed to necrotizing enterocolitis, which is a disease of the bowel of which the etiology is not known.

It is not necessarily an infection and the baby apparently had recovered because if there were no major complications such as rupture of the



bowel which sometimes can occur, or severe bleeding it was a mild bleeding only - but there appeared to be
an improvement or even total recovery from that.

Q. The final four lines of the last paragraph of the report on page 33, Dr. Hastreiter, refer to bacteriological cultures:

"...several bacteriological cultures obtained from specimens of several different sites grew E. Coli. The interval from death to autopsy was 5 hours and the positive cultures obtained are thus considered significant. E. Coli septicemia may have contributed in a significant manner to this infant's death."

Is that a view that you share?

A. Let me just look at this for a second. Excuse me.

These cultures were obtained from the blood I assume. I am not sure. They don't state here, or was it --

MR. OLAN: Mr. Lamek, for the doctor's reference, page 32, Item No. 2 under 'anatomical diagnoses' reveals where the sites were.

MR. LAMEK: Yes. Thank you.



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THE WITNESS: Oh, from pericardium, spinal cord and large intestine serosa.

I think they are suggestive findings. They certainly suggest the possibility that sepsis -- sepsis can be a very difficult diagnosis. Sometimes there may be sepsis and cultures may be totally negative, so one can never exclude this diagnosis.

I don't believe that from a clinical standpoint sepsis was being very seriously considered.

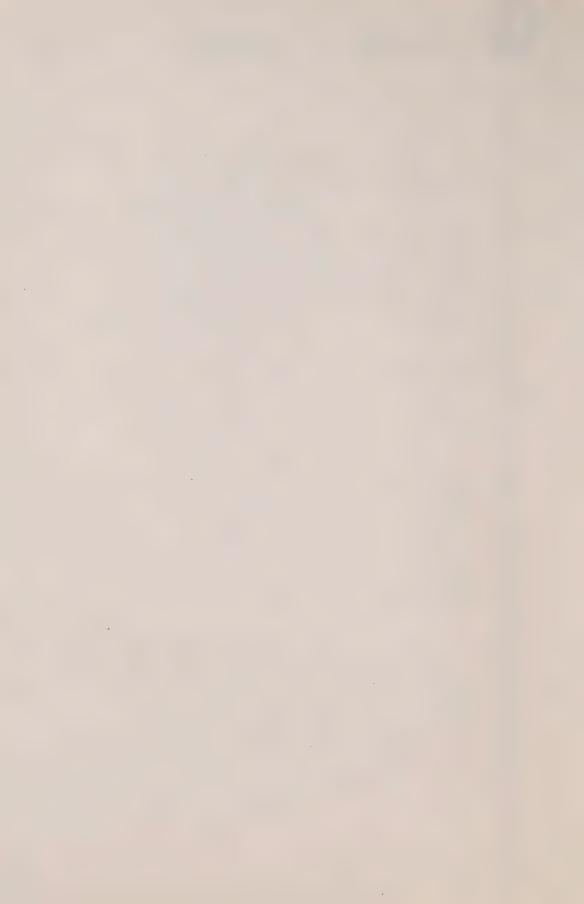
We have somewhere earlier on page -or was it later, on Dr. Freedom's report...

MR. LAMEK: In answer to one of the questions you raised earlier, doctor, pages 45 and 46, there is a note by a cardiology Fellow on the 22nd of the month, the 22nd of November, the date of admission, showing on the second page there under 'arterial blood gases', "severe hypoxia, PO2 less than 30".

A. Yes.

 Ω . And the surgery was on the 24th and therefore what we are looking for is blood gases after the 24th, is it not?

A. Yes.



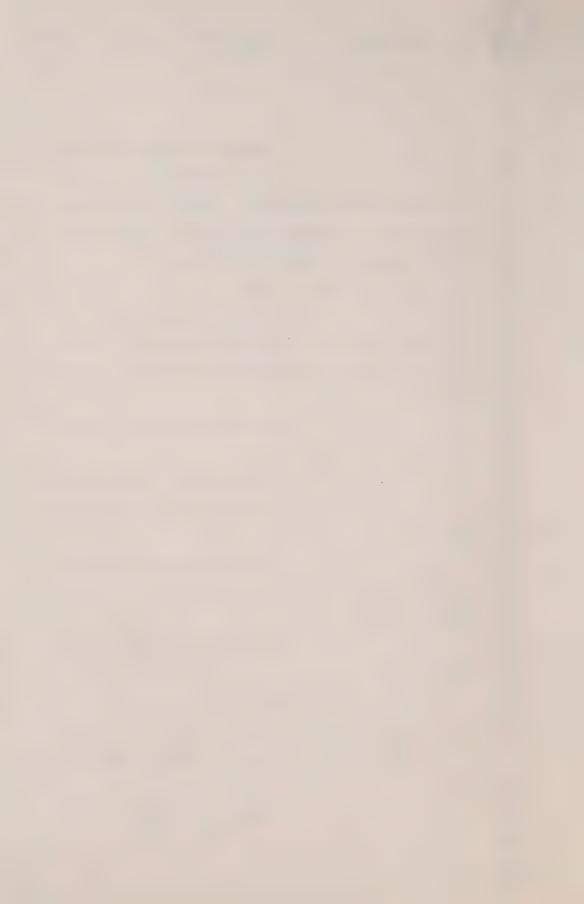
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2	Q.	There is a base line anyway.
3	, A.	Yes, they have the laboratory
4	sheets in the back, Pa	age 122. You see, shortly after
5	surgery the blood gas	ses were 55, 47. There was a
	day of surgery, I thi	ink the 24th, yes.
6	Q.	Yes.
7	A.	Then we have the 25th, a
8	p02 of 41. You see,	this 40 is pretty good, 40 to
9	50 is quite good for	this type of situation; 41 is
10	still good.	
11	. Q.	The 30th of November on Page
12	125 we have 38, a po	2.
13	Α.	That is still reasonably good.
	Q.	December 9th we seem to have
14	15.	
15		That's 15, that is very low,
16	that was probably at	the time of the arrest, wasn't
17	7 it; 3:55 is the tim	
18	Ω.	The baby got from the cath.
19	lab at 4:00.	
20	A.	No.
21	Ω.	No, no, I'm sorry.
	A.	This baby had an arrest at
22	2 2 20	

Q. 3:29, that's right.



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A. So, this was after the arres	t.
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- Q. Okay.
- A. Yes, that is very slow.
- Q. Well, okay, Doctor, obviously

I am interested particularly in this child because it was your view, not a view apparently shared by the other physicians at the meeting on September 13th that this was a case of probable murder and with that there is that view expressed and apparently not shared by the other physians I thought it worth while to take a rather closer look at it.

A. Can we take a look for a minute at Dr. Freedom's note here on Page 37 which perhaps summarizes the situation, at the very bottom it says, "Course in hospital" and then he mentioned the pO2 of 62, was 47 after the insertion of the shunt.

Q. Yes.

A. I don't quite understand that.

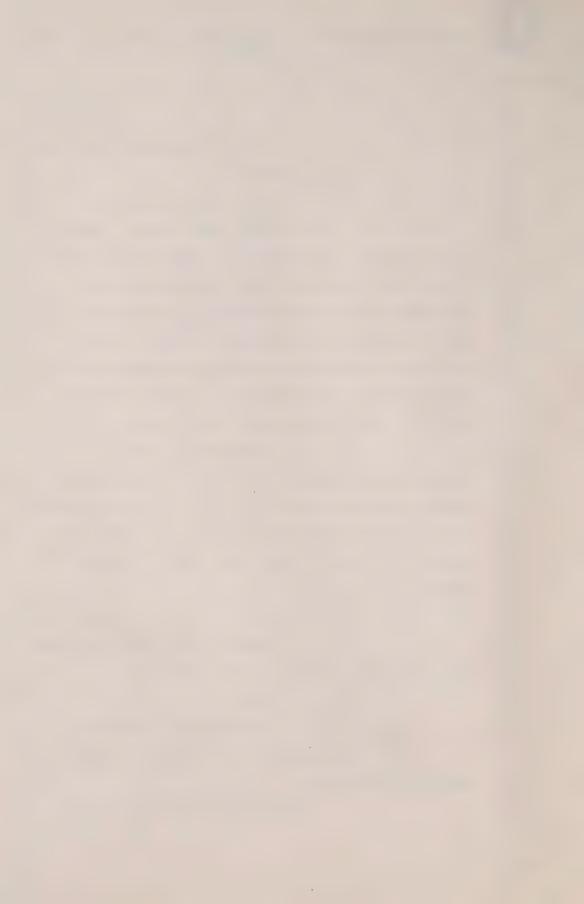
What the 62 means here, I'm not sure.

Q. Yes.

A. "The baby had a relatively uneventful post-operative course..."

Relatively uneventful.

"...except for the continuation of



irregular ectopic beats throughout his post-operative course.

The baby was noted to have a bloody stool on the 6th of December, and the possibility of necrotizing enterocolitis was raised."

Now, necrotizing enterocolitis does not usually result in sudden death like this either.

"Later astrovirus was isolated in the stool, and the diagnosis of necrotizing enterocolitis was not completely accepted."

So they probably felt that this was a gastroenteritis of some kind, an infection of the bowel.

"However, he was treated on the NEC.

In the early morning of

December 9th, 1980, the baby suddenly
dropped his heart rate, which had been
between 120-170/min., to between
40-50/min. Within a few minutes he
had periods of a systole. Cardiac
arrest team was called..."

Now, he doesn't say whether this was unexpected or not,





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there. It looks like he more or less confirms my opinion that the post-operative course was relatively uneventful, except that the baby was definitely blue. The shunt was too small, no question about it, he would need another operation, but again there is no reason for a baby like this to suddenly die, usually.

Q. And that is the basis for your view that this raised a sufficiently high index of suspicion in your mind for you to categorize it as probable murder.

A. Right.

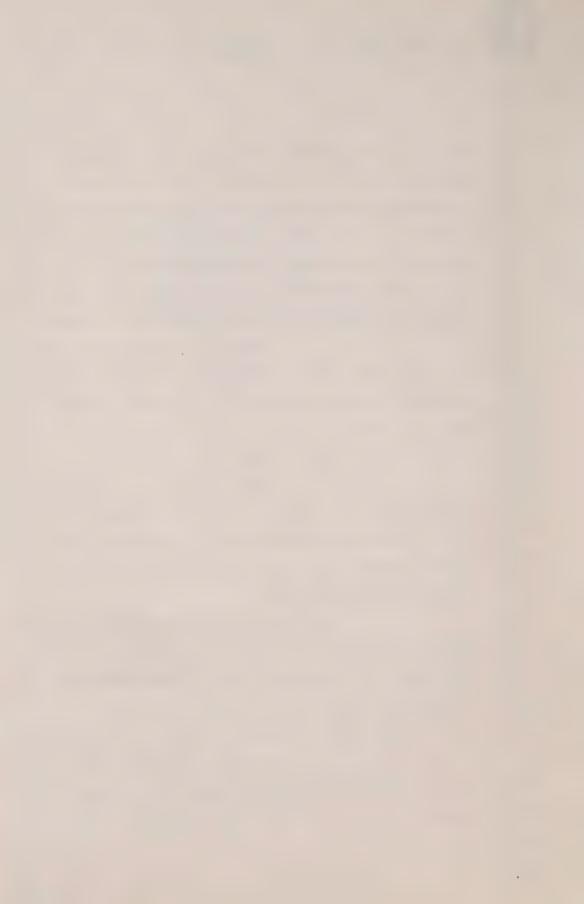
Q. Now, there are two more children in this group and perhaps we can deal with one of them before the break very quickly and that is Real Gosselin. You will find your report on him at Page 134 of the binder.

This child you had scored for severity as 8. You appear, Dr. Hastreiter, to have considered the death to be unexpected with an abrupt onset of terminal symptoms.

A. Yes.

Q. At the foot of Page 134,

Dr. Hastreiter, you have commented on the Cause of Death:



"The cardiologists at HSC have no good explanation for the infant's sudden deterioration and death (see Dr. Freedom's letter). They doubt that the demise can be explained purely on the basis of prostaglandin therapy.

Digoxin overdose is a possibility."

And then in your sort of the box score at the bottom on probability you have described that as a good probability of massive digoxin overdose. On the face of it, I confess there seems to me to be a difference between saying digoxin overdose is a possibility and then rating it as a good probability. What occurred between the last two lines?

THE COMMISSIONER: I don't think you are stating what the doctor said his rating means.

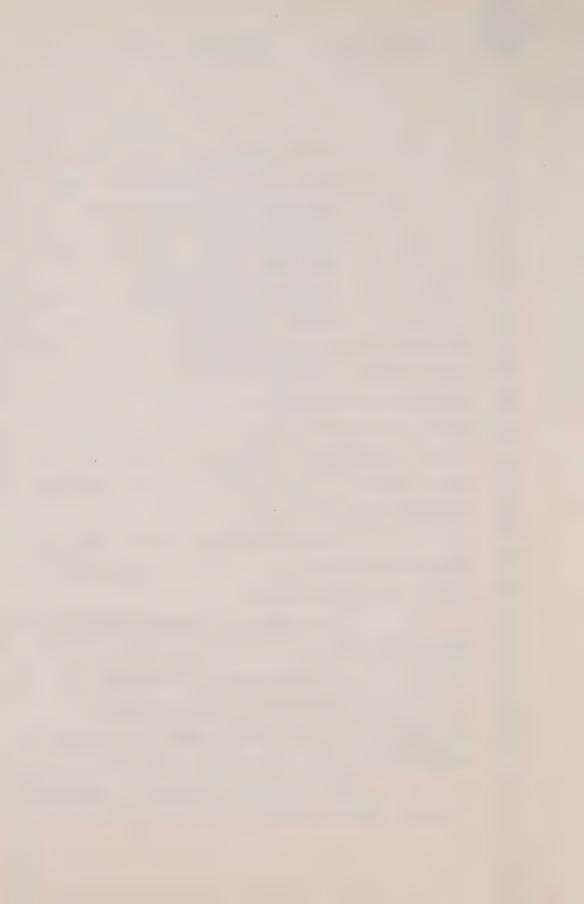
I understand that good means...

MR. LAMEK: I am essentially inviting him to say it again.

THE COMMISSIONER: All right.

means that we certainly have to pursue this and that is basically it.

Q. There is enough of a suspicion to warrant further inquiry.





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A. Right.

MR. SCOTT: It might ease the way when we come to cross-examination, if I have it right, and I hate to suggest a question to my friend, but does good mean ---

MR. LAMEK: After yesterday you should.

MR. SCOTT: But does good mean possible,

is that what we have to draw from that?

THE COMMISSIONER: Well, that is not what he said. It means that good must be followed up. It probably does mean possible.

MR. SCOTT: Less than possible, to be followed up.

THE COMMISSIONER: No, no.

MR. LAMEK: Sufficient cause for concern

to warrant following up and further investigation.

MR. SCOTT: And fair means?

MR. LAMEK: You can't rule out entirely

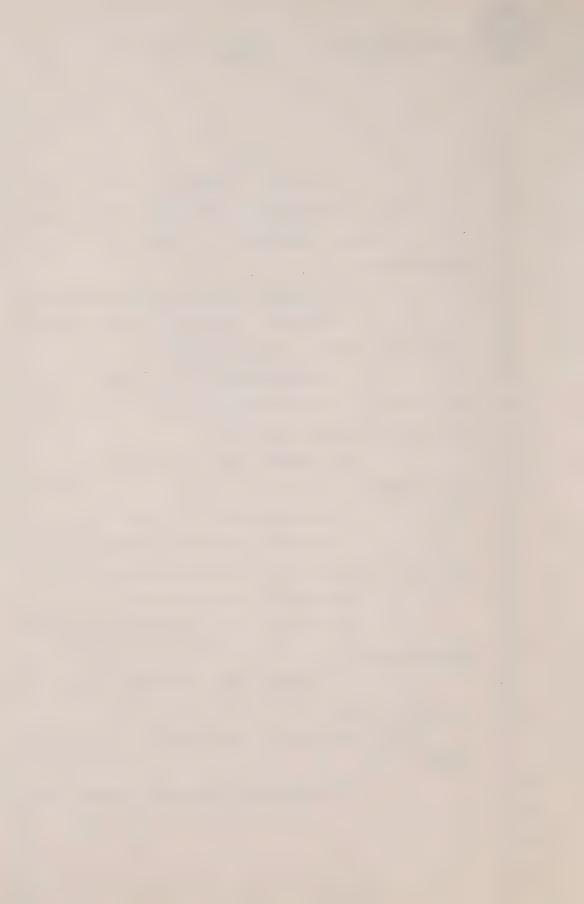
the possibility.

right.

THE COMMISSIONER: Small means nil, or very close to nil.

MR. LAMEK: Very close to nil, that's

THE WITNESS: Yes, small are the ones that



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we ruled out essentially, totally.

MR. LAMEK: Q. Now, we have got no

toxicological ---

- A. Small probability.
- Q. I'm sorry?
- A. Small probability.
- Q. And virtually no possibility.
- A. It sounds a little strange,

perhaps the word small, but that is what it means.

- Q. All right, as long as we understand what the labels mean we can deal with them.
 - A. Yes.
- Q. Now, as far as Gosselin is concerned we have no toxicological information, Dr. Hastreiter. When we got to the meeting of September 13th the case is reported in the minutes at Page 9 and there is unanimity among the physicians present at the meeting that this is a death that should be characterized as suspicious. Mr. Cimbura, lacking any toxicological information, conservatively cast his vote for natural.
 - A. Yes.
- Q. Other than the abruptness of the onset of the terminal episode and the unexpectedness of his timing, as you assessed it, was there anything



else in this child's case that prompted your characterization of his death as suspicous?

A. Maybe I should briefly review it. This is a baby that was about three weeks old again and had a severe coarctation of the aorta, rather extensive, and aortic stenosis, a small left ventricle. This is a bad combination. It is a serious lesion. I'm sorry, what was my rating again for the severity of this one?

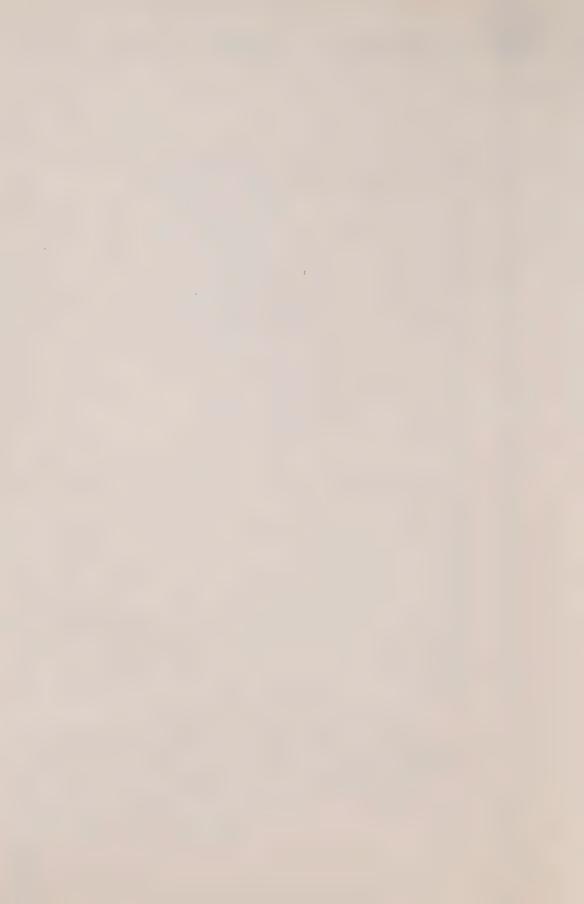
THE COMMISSIONER: 8.

MR. LAMEK: 8, yes.

A. Yes. The baby was quite sick at the time of admission, was treated with digoxin diuretics, prostaglandin, and had a cardiac catheterization I think the day after his admission. There is an error in the dates here probably in my sheet. He also had an episode of apnea, or had two — let's see, why he was receiving prostaglandin in the evening of 17/12, which I believe was the date of admission.

THE COMMISSIONER: Yes.

THE WITNESS: A. The baby developed two brief episodes of apnea around 19 hours and he was felt to have more severe heart failure, was given lasix.





At 2:25 had a prolonged episode of bradycardia and an arrest was called and resuscitation was uneventful. So, this death occurred shortly after his admission. Why he was receiving prostaglandin?

I'm sorry, the cardiac catheterization had been performed elsewhere, had been performed in Winnipeg at another hospital and was not done here. Now. one could argue that the administration of prostaglandin could be responsible for his apnea as well as his bradycardia and possibly the cardiac arrest. I think it is an acceptable reason.

Maybe we could look at the Gosselin chart because there is a letter by the cardiologist at the hospital that may explain things a little better.

MR. OLAH: Page 35, Doctor.

THE WITNESS: Yes.

So, on Page 36, I think at the very last paragraph there is a summary of the letter of the baby's course by Dr. Freedom and it says:

"In summary, then, this infant had
a severe thoracic coarctation of
the aorta, and I am really disturbed
by this baby's demise just a few hours
prior to surgery. I doubt that the demise





can be explained purely on the basis of apnea secondary to the prostaglandin therapy, and at this time I really don't have a good explanation for this baby's sudden deterioration and death. If microscopic examination adds anything more I will, of course, forward these results on to you as well."

Et cetera.

So, that is basically the situation here where the cardiologists at the hospital themselves had some doubts about the reason for the baby's death.

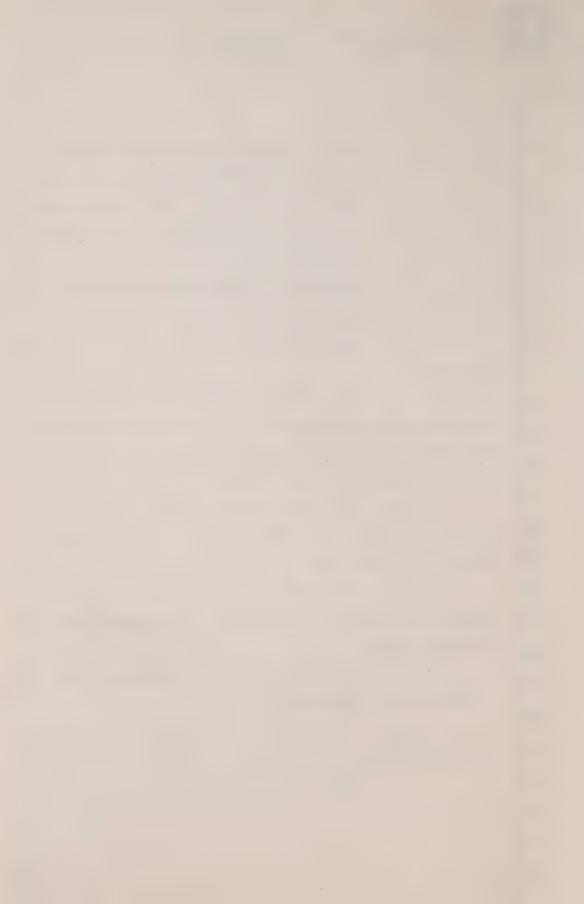
It was on purely clinical grounds.

THE COMMISSIONER: I guess we will have to put Dr. Freedom's evidence on that to him. Is that going to be available?

MR. LAMEK: I was about to do that and refer to it. Perhaps this might be a sensible time to take a break.

THE COMMISSIONER: We might just take a break now for 20 minutes.

---Short recess.





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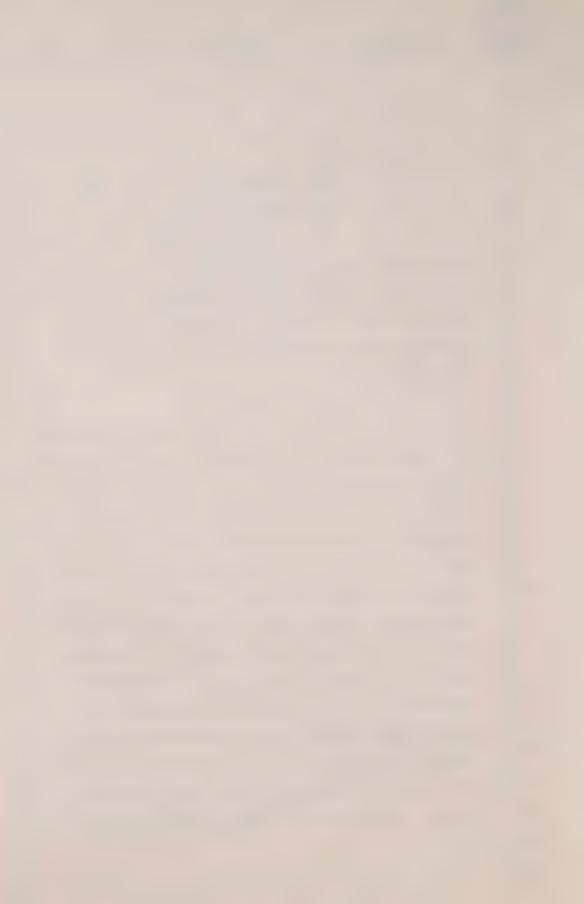
--- Upon resuming.

THE COMMISSIONER: Yes, Mr. Lamek.
MR. LAMEK: Thank you, sir.

Q. Doctor, we were talking about the Gosselin case, and you I take it on your review of this chart found some corroboration for your view that the death was sudden and unexpected, from Dr. Freedom's letter to which you referred just before the break.

A. Right.

Inam obliged to tell you that 0. Dr. Freedom when he gave evidence here, told us that it was not really his view that the death of this child was unexpected, and he was not in fact as disturbed as he had said in the letter. He told us that in fact in writing the letter to the referring physician he had relied upon a report of a resident who had told him two things really about the child; first, that the child had been stable in the period prior to his death; second, that the child was responding well to the prostaglandin therapy. Dr. Freedom said, and he seemed to be understandably a little embarrassed to say so, that he had not reviewed the chart himself before writing this reporting letter, that when he did indeed review the chart he





found that he disagreed with both of the reports that his resident had provided to him and was really rather satisfied that the child's death was not unexpected as he did not appear to be responding well to prostaglandin therapy.

Now, that evidence was put to Dr.

Fay when he was here, and Dr. Fay in light of that,

I should tell you, changed his opinion of the Gosselin

death. He had expressed the opinion at the meeting

of September 13th, 1982 that it was a suspicious

death. He was now prepared to say that he regarded

it as a natural death.

Forgive me, I don't mean to sandbag you with that evidence, but was there anything other than Dr. Freedom's own letter in this chart which led you independently to the view that the death was not explainable on clinical grounds?

A. Excuse me just a second and I will go through the chart here.

Q. Yes, of course.

make a decision in a situation like this, because this child was a very sick child, there is no question about it. I think Dr. Freedom's letter was certainly an important contributory factor in our decision,





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in my decision to grade this child as a good probability of digoxin intoxication.

I still have a little difficulty though understanding why he would write a letter like this if there wasn't at least, you know, some evidence that the child had improved, and why the child was not operated on, because this is a lesion that will require surgery. The prostaglandin infusion is just a temporary treatment. I can see that when the baby was admitted, and I believe that the date of admission was the 17th of December, that the baby was quite sick and the baby was treated extensively with digitalis diuretics and prostaglandin. But the baby died on the 18th, that is actually just one day, 24 hours or so after his admission to the hospital, and then there probably was no time for the baby to be scheduled for surgery, or not enough improvement clinically that would permit the baby to be operated on.

I am trying to see if I can find -I read the pathologist's note here, and that doesn't
help too much as far as evaluating the status of
the child prior to the demise.

Q. Perhaps I can refer you,
Doctor, to the discharge report on Page 21 of the





chart.

A. Yes. Okay.

Q. Certainly in the final paragraph of Page 21 and in the paragraph on Page 22, the writer of that report seems to suggest, as I read those paragraphs, that the baby was not doing badly.

A. Right.

Q. It says the Prostaglandin was started; the child did well during the day; two brief episodes of apnea around 1900 hours.

The liver was again down 5 cm. Excellent response to lasix. Arterial blood gases and electrolytes was within normal limits. The baby then did well until 2:25 on the 18th.

information was available at that time. Of course, we had to base our decisions on these reports, on this type of information. I have no reason to really change my grading of this baby because Dr. Freedom changed his mind, at this time, at this point in time.

Q. I suppose on the one hand,
Dr. Hastreieter, one would normally show some
deference to the opinion of the attending physician.

A. Sure.



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Ω.	Although in this case I take
it Dr. Freedom does not	appear to have been so close
to this child that he w	as not misled by his
cesident's report, and t	herefore, you are left to
your own judgment of th	e chart as a whole, and is
it on that basis you sa	y you do not really change
the opinion that you or	iginally formed?

Yes. I think Dr. Freedom is an excellent cardiologist and I have great regard for him and respect. I believe that he was probably partially misinformed at the time. It could be, I don't know who Dr. Stephen is who wrote this discharge summary, it may have been the same person -

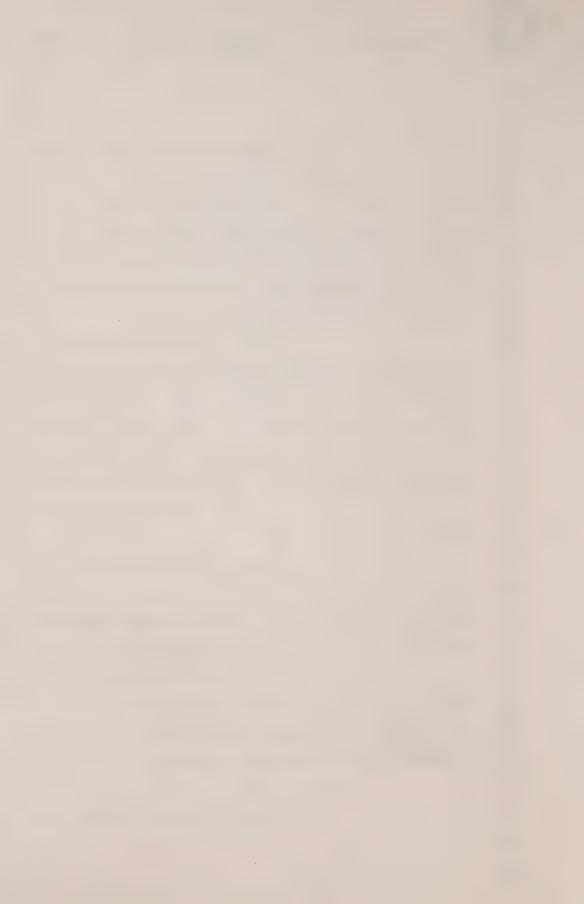
It may be the same person who advised him.

Yes, or misinformed him. I think there is enough evidence here in this chart to indicate that the baby was doing reasonably well and that the arrest occurred rather unexpectedly.

I should re-emphasize, however, that this is a very severe type of problem. It is very likely that the baby might not have survived surgery, or might have died even before surgery.

> 0. Yes.

And also the possibility that



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course, because prostaglandin can cause all these complications that the baby had.

O. May we then turn to the last

prostaglandin may have influenced the baby's terminal

Q. May we then turn to the last of the children whom you described as showing a good probability of digoxin overdose, and that is Laura Woodcock.

Laura Woodcock did not appear to have a very serious cardiac problem. You rated her on the severity scale 2, and your report is found at Page 171 of the binder. Now,I think Laura Woodcock's cardiac condition was not a terribly serious one, and that is the view that is shared by the hospital's cardiologists. She did have a liver disease problem, did she not?

A. Yes.

Q. And indeed you noted that on the scoring, the severity scoring sheet that you prepared.

A. Yes.

Q. In your judgment and based upon what you find in the chart, was the liver problem that this child had a life threatening problem?

A. May I look to the chart for just amoment, please?

Q. Yes, of course.



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If it is of any assistance to you,

Doctor, the report of the liver biopsy is on Page 71.

THE COMMISSIONER: Is there something

you are looking for particularly, Doctor, because we might be able to ---

THE WITNESS: Yes, I'm just trying to look for the laboratory findings to see if we have enough information to tell us the severity of the liver disease.

MR. LAMEK: Q. The chemistry reports are Page 66 and 67, Doctor.

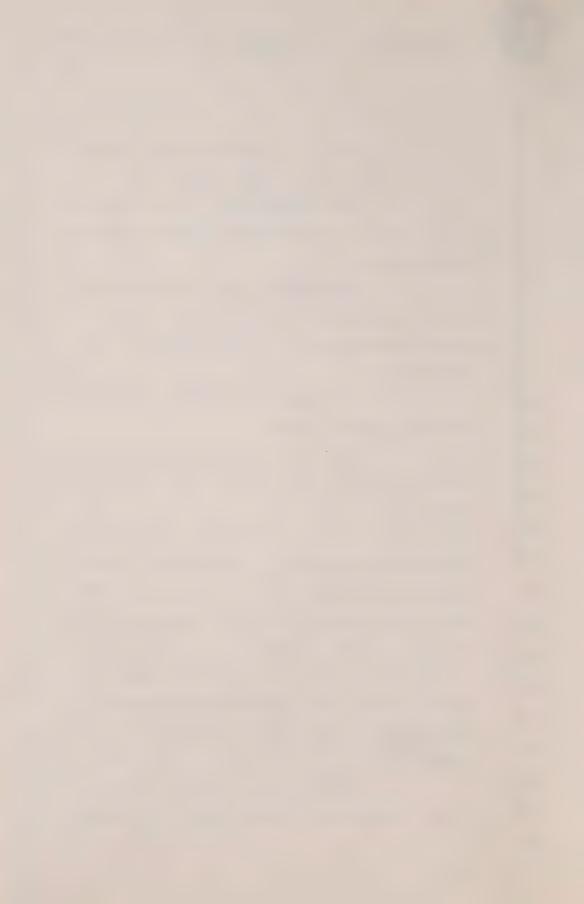
A. Yes. The bacteriology earlier than that -- I don't know whether you are interested in that?

It is more difficult for me to make decisions regarding diseases which are not related to the heart. I think the heart problem here was clearly not a very significant one.

O. Yes.

A. So we are left with the hepatic problem, the liver disease, and I think liver disease can be very tricky sometimes, and the course variable.

From reading the chart and looking at the information we have, the child obviously has





serious liver disease. No question about it. But I don't see any indications that death was immanent or expected, nor do I see any changes in the liver function studies that will indicate worsening of the condition or anything in that direction.

When I reviewed this in 1982 this was also my impression then that it would be difficult to attribute death at that particular time and so abruptly, attribute it to liver disease.

I believe -- this is my opinion.

Perhaps if you have a hepatologist to testify he would disagree with me and he would feel that...

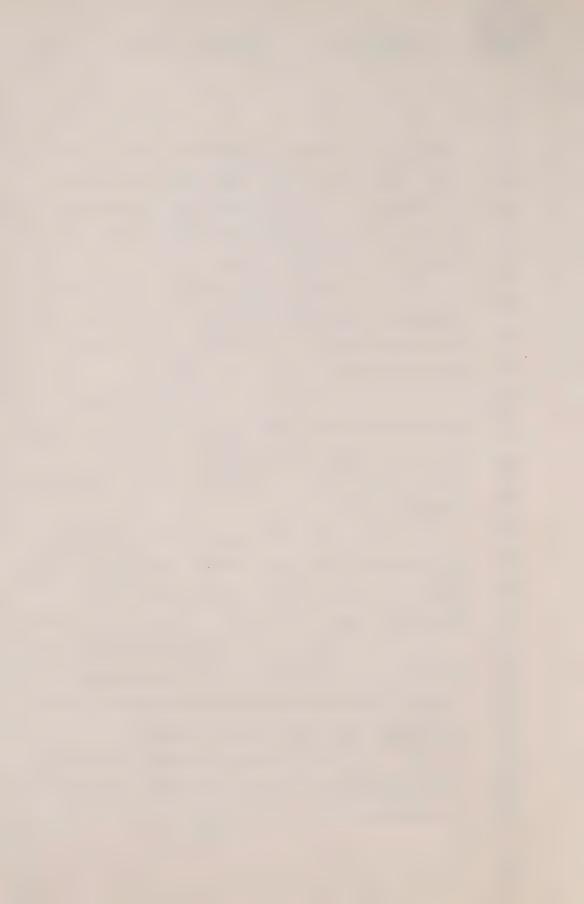
Q. We had one but he talked about something else.

Well, the real question in the case is contained in the last sentence of the final autopsy report, is it not, Doctor, at Page 33, where the pathologist says:

"The exact cause of the sudden cardiorespiratory arrest is uncertain."

I suppose the question is whether the liver disease
could have caused that arrest to occur.

As a matter of professional opinion and probability, can you tell me what your view of that question is?



A. Yes. My view of that is that
it would be extremely unlikely because the course of
liver disease, there are so-called fulminating
insults to the liver. For instance, an acute infection
or poisoning. But the child had already been in the
hospital four days, and I don't see any clear evidence
that the child was really deteriorating or getting
worse as far as the liver condition is concerned, and
therefore I find it difficult.

The usual course for liver disease is a slower, more gradual course, where the situation deteriorates slowly and eventually they may die, but that is not apparent here either.

Q. There was toxicological information available about this child. It is in the report dated September 29, Exhibit 95-E on Page 5. It is not going to carry us very far, I think.

Mr. Cimbura reports:

"The following specimen was in a plastic bag bearing seal No...(so and so)... and is reported to be from autopsy after exhumation of Laura Woodcock."

It consists of a sample of tissue in jar marked "muscle", and the only thing that he is able to report is that,



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"Trace of digoxin like subs	tance
(4 nanograms per gram calcu	lated
as digoxin) was indicated."	
s of no assistance in helpi	ng yo

I take it that is of no assistance in helping you decide the probable cause of this child's death.

A. Will you excuse me just a second? I have in my notes here that no digoxin was prescribed for ---

Q. For Woodcock?

A. For Woodcock. This may be in-

correct.

THE COMMISSIONER: Yes, I think so.

MR. LAMEK: Q. I think that to be incorrect. Perhaps at the referring hospital, yes.

THE COMMISSIONER: She had no digoxin at this hospital but there apparently was ---

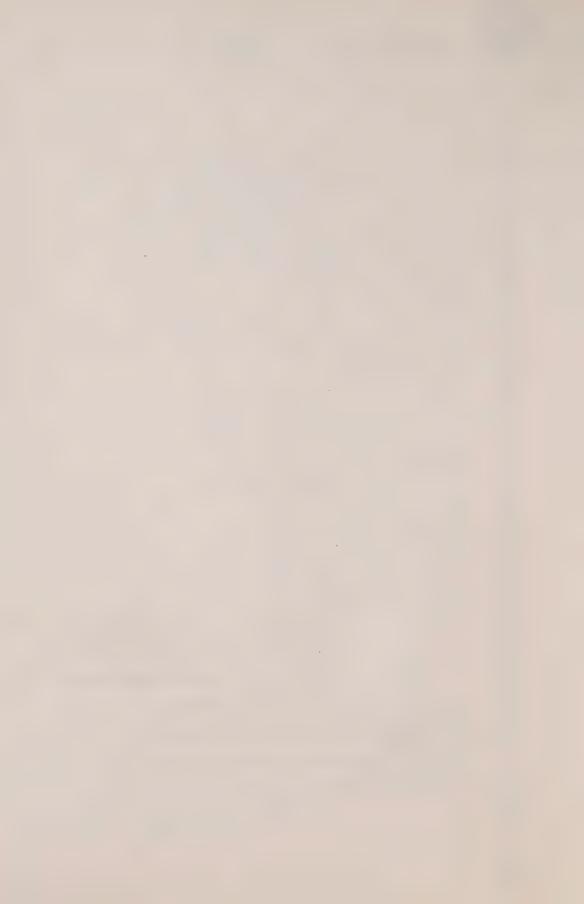
THE WITNESS: Digoxin earlier?

THE COMMISSIONER: Well, I don't know.

THE WITNESS: Because this lesion does

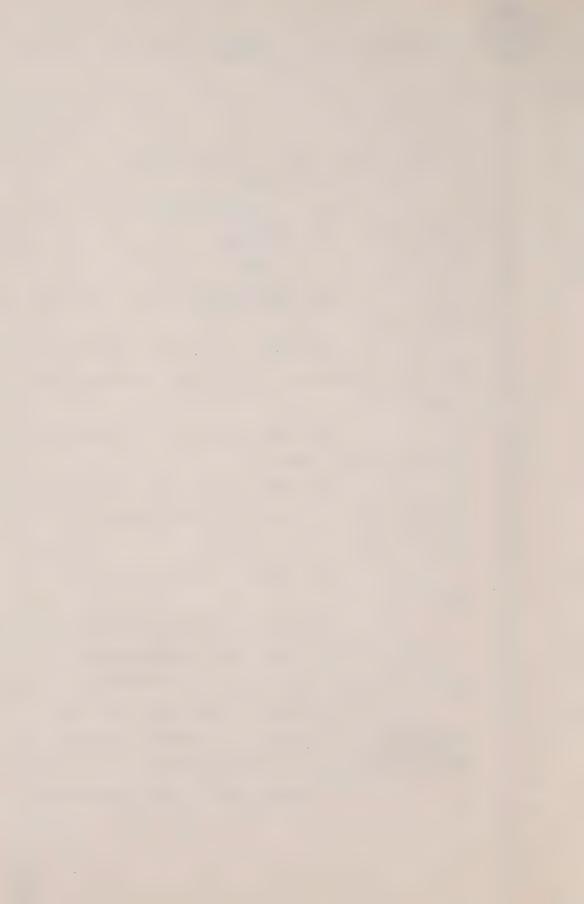
not really warrant the use of digoxin. It is a small ventricular septal defect, and I don't see any reason why she should have received digoxin. However, -- oh, here we have the chart. We should be able to...

MR. LAMEK: Q. She seems to have been



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on digoxin at the Oshawa General Hospital.		
A. Yes.		
Q. From which she was referred to		
the Hospital for Sick Children.		
A. Okay.		
THE COMMISSIONER: Is that contained		
in the chart?		
MR. LAMEK: I am just looking for it		
now, sir. It should be on the orders somewhere from		
Oshawa.		
MR. SCOTT: Page 59. I am trying to		
catch up with Mr. Olah here.		
MR. LAMEK: Well, that is the medica-		
tion sheet from the Hospital for Sick Children. No-		
thing there.		
THE WITNESS: There is no digoxin		
there.		
MR. OLAH: (Inaudible.)		
MR. LAMEK: Yes, my recollection is		
that the referring hospital, if we can find it		
MR. OLAH: If you look at the extract		
relating to Laura Woodcock, it indicates that CHF		
was diagnosed, that she received digoxin.		
MR. LAMEK: Well, if we look at Page 14.		



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THE COMMISSIONER: That is something we did ourselves. It is not necessarily right. Page 14?

MR. LAMEK: I have a very bad copy
here and we may have to check the original. I think I
see the word digoxin against the hour 2145.

THE COMMISSIONER: Yes, that is right.
THE WITNESS: Yes, on Page 28 ---

Q. Apparently administered intra-

A. Yes. On Page 28 the autopsy report also says that she had received -- the second paragraph towards the bottom.

Q. Yes. Therapy with digoxin was begun but discontinued because the heart rate fell.

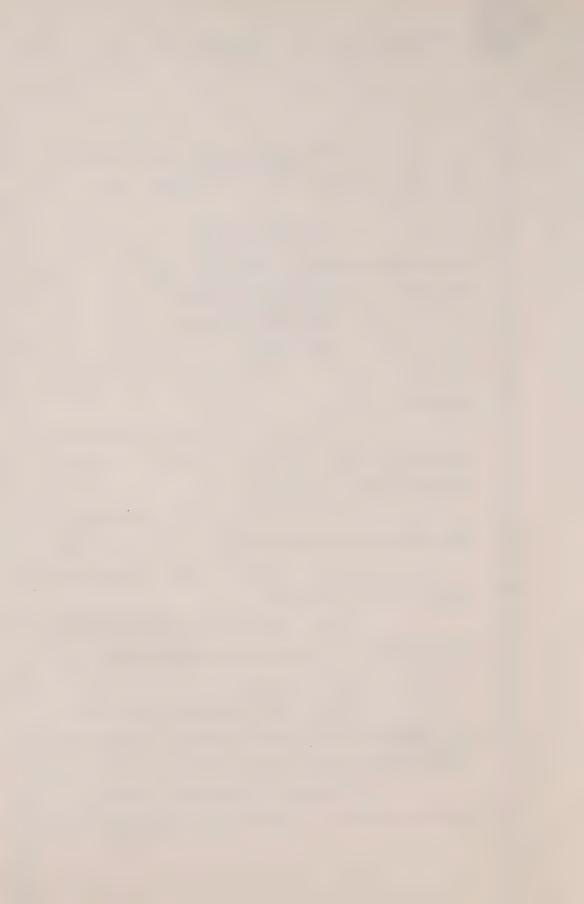
A. Yes. So then the toxicological findings are not meaningful.

Q. That is unhappily all we have in that context on this child, Dr. Hastreiter.

A. Yes.

 Ω . You classified this child initially as probable murder and that is the meeting of September 13, if I can find the page, Page 14.

I confess I am adding a little translation there. At the end of the summary of your



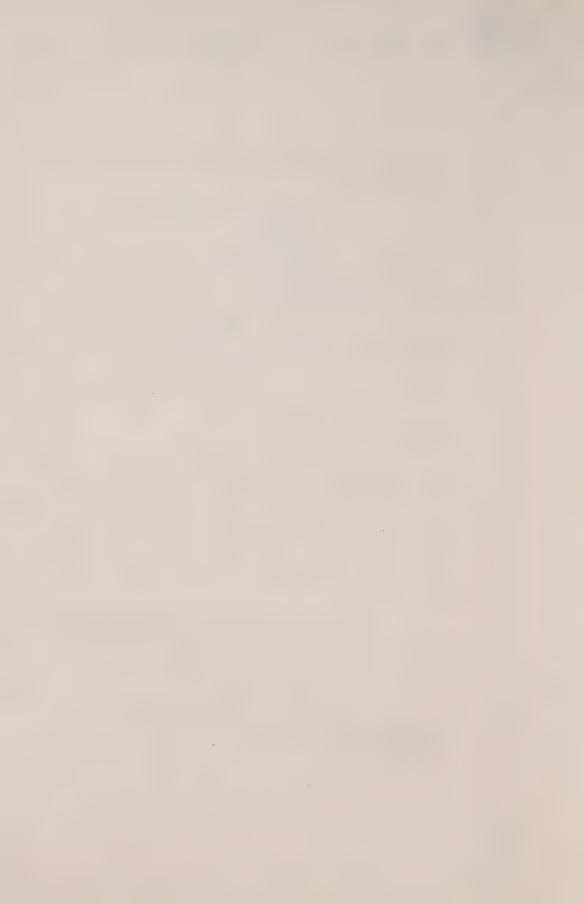
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introductory statement on Laura Woodcock it is reported that, "Therefore he classified this as probable." I must say I was reading that to read probable murder. Is that what you meant? I am not really sure from Α. reading this because there are many errors in the ---Q. Yes. A. --in the transcript of the minutes of that meeting. In any event, when it came to Q. the canvassing of the opinion, again you appear to have a higher index of suspicion than any of the other physicians there. You categorized it as a suspicious death and they as a death involving very little suspicion Yes. I have said that heart

disease was of a very mild nature.

Q. Yes.

Also had liver disease. I didn't elaborate on that.



Hastreiter, dr.ex. (Lamek)

/BM/ak

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I said later that no one felt that other problems were severe enough to cause death at that particular point in time, that was my feeling then. Therefore, I apparently classified her as probable. I don't remember that, but Dr. Fay also commented on the liver disease and he felt it was resolving. She also had some evidence of pneumonia, but this was not felt to be a very serious problem. Pneumonia, possible aspiration, but it was not thought to be a cause of her death even.

Q. Yes.

A. And then the others, there was no toxicology. I see that I classified her as a suspicious death.

Q. Yes.

A. Eventually. The others actually had a lower index of suspicion with a very little suspicion and that is how it ended.

Q. Do I take it that your characterization of the death as suspicious in the absence of any toxicological data essentially reflects your view based upon the chart that you do not see a clear clinical course for the death and the death was somewhat unexpected in its timing. Is that what it comes to?



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A. Exactly.

Q. Now, Doctor, those were the children whom you rated as good probability of massive digoxin overdose on the basis of your chart review.

MR. BROWN: If I might interject.

I believe you add one other to the list, Baby

MacDonald.

MR. LAMEK: I'm sorry, did we not do MacDonald?

MR. BROWN: No, we did not.

THE COMMISSIONER: Yes, you haven't done MacDonald, you are quite right.

MR. OLAH: Maybe I can resolve the problem of digoxin, page 38 of the chart.

THE COMMISSIONER: Page 38. Yes,

I think we got that. I think there was a private

conversation that we had up here that doesn't get

transmitted.

MR. OLAH: Thank you.

THE COMMISSIONER: Yes.

MR. LAMEK: Q. Well, let's look very quickly then at MacDonald. Your report on MacDonald is found at page number 132. You had given this child, or you gave this child a severity



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scoring of 5.

MR. SCOTT: 132?

MR. LAMEK: 132.

Q. You were lacking any toxicological information but at the preliminary hearing, page 11 of Volume 34 of the transcript there,
Mr. Commissioner, you included this child,
Dr. Hastreiter, among those whose deaths you said were consistent with digoxin toxicity and which carried a possibility of what you called massive digoxin overdose.

A. Right.

September 13th at page 8 of those minutes, again, in your initial summary of the child's case and history, you placed the child, the death in the probable category. Again, we are not quite sure what that means, whether you meant probable murder or high probability or good probability. Your vote, when it came to it, was for suspicious death, a view in which the other physicians concurred and you based your suspicion upon the fact the baby you said died a little bit unexpectedly but the facts are not as strong as in other cases categorized as probable.

Other than the element of unexpectedness



J4

in the death of this child, was there anything else in the chart which created the level of suspicion that you had?

A. Perhaps I should review for a minute the main findings.

Q. Yes, of course.

A. This was a seven month - no, five months old baby with Down's Syndrome.

Q. I believe so.

A. Who had a large ventricular septal defect. At autopsy later it was found to be 14 millimetres in diameter, which is quite large. The baby had signs of congestive heart failure on admission to the Hospital, which occurred on the 12th of December of 1980.

It is interesting that the early months of life were uneventful. At five months, which was her age, then she was admitted to the local hospital with progressive dyspnea, fever, cough. So, she probably had an infection which precipitated the development of heart failure. This is not unusual. She was then treated at the other hospital first with digoxin, Lasix and antibiotics, namely, ampicillin.

Upon admission here, let's say, the



chest x-rays showed that the heart was large and there was no evidence of pneumonia, which is often a complicating factor in an acute situation like this.

They continued her cardiac drugs, she remained tachypneic, took feedings well but vomited frequently, was kept in oxygen.

Now, this is a pretty classical picture of congestive heart failure, a child with a large ventricular septal defect and nothing so far surprises me. However, then comes this acute episode again where she, on the morning of the 13/12 she became tachycardic, tachypneic, had a cardiac arrest and died. I don't know the exact time of the arrest, but she died at 4:30 in the morning.

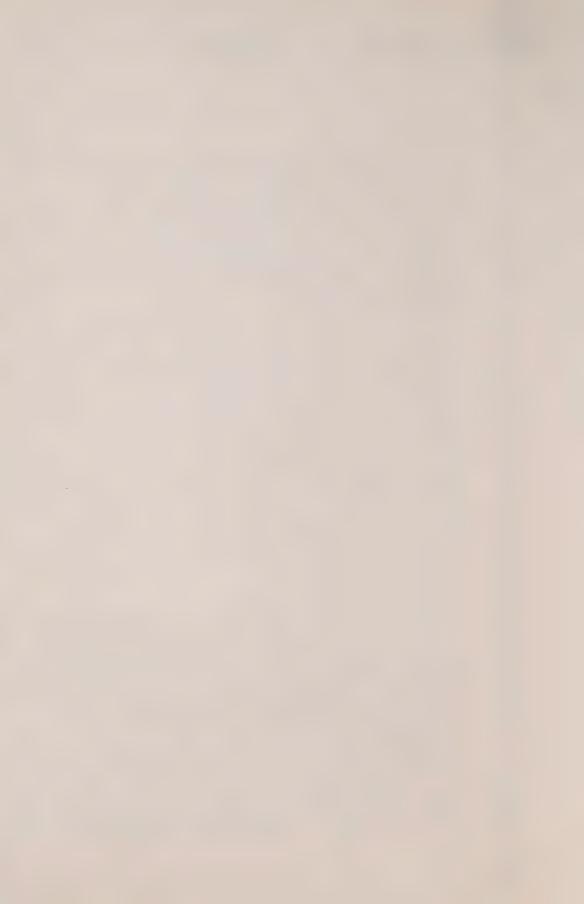
Q. It was about 3:40, 3:45 in the morning, Doctor?

A. Yes.

Q. I think I should also mention that the cardiologists at the Hospital were somewhat surprised at this child's death and there are some written comments evidentally in the chart to which I refer here.

The immediate cause of death was not clear "See comments in medical record by cardiologist".

It may have been a vagal reflex, in other words,



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sometimes when you pass a tube down the throat, the laryx or the thorax, you may produce a vagal reflex where the heart slows down, it may even occasionally stop completely and children have been known to die as a consequence of such a maneouvre; or an arrhythmia. Well, arrhythmias don't just occur, there are usually reasons for them to occur.

So, there were some uncertainties here, some unexpectedness and this terminal event was rather abrupt again.

Now, I would like to perhaps see if I can find the note of the cardiologist here who felt that it was unexpected also.

MR. OLAH: Page 46, Doctor.

THE WITNESS: 46?

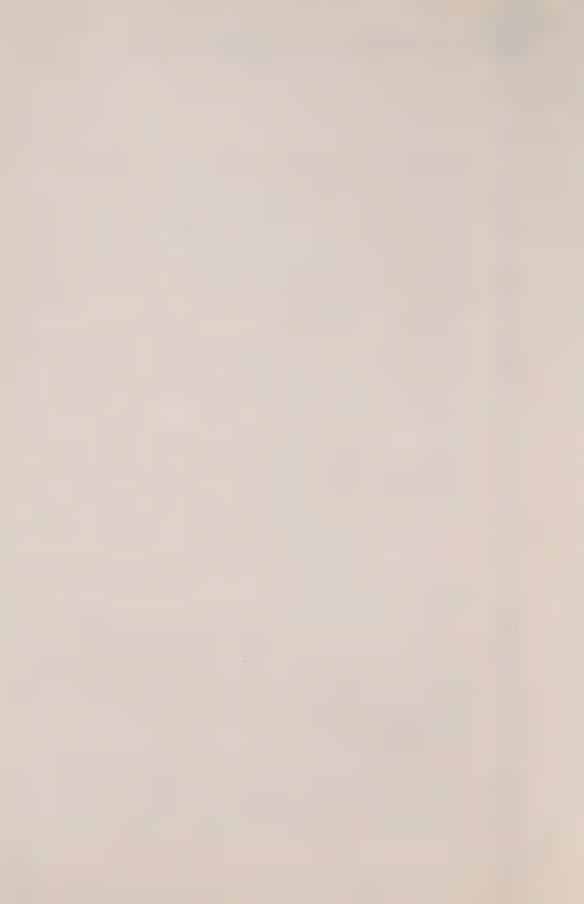
MR. LAMEK: Q. That is the discharge

report.

A. Thank you.

Q. That is the discharge report and I don't know whether that would have been written by the cardiologists, it was a cardiologist note you were looking for?

A. No, but this report also, at the bottom of the last paragraph contains some information. It says:





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"The immediate cause of death could not be ascertained at the time of dictation It could have been due to a vagal reflex elicited by the suction maneouvre but arrhythmias or poor sinus function related to the heart defect are also to be considered."

And then it goes on to say that digoxin toxicity was not suggested by the admission ECG, and other possibilities. But there was nothing very clear.

0. I think you may find the origin for those suggestions, Doctor, on page 58 of the chart where the resident, who was called at 3:35 in the morning stated his impression or differential diagnosis as being vagal reflex, arrhythmias, a digoxin toxicity or poor conduction system.

- Α. Yes, I see that.
- 0. Those appear to be the observations or impressions or diagnoses made by the resident who attended the child when she got into trouble.
- Α. Right. And further down he has additional possibilities such as dehydration,



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acid base imbalance, electrolytes.

Q. Yes, which he canvasses and rejects as unlikely.

A. Yes, right. But there appear to be some doubt as to what really had caused his terminal event. There wasn't a clear reason for it.

Q. Can we just look at those differential diagnoses on page 58 for the moment.

Doctor, I recall asking Dr. Rowe this, but I would like your views upon it, the resident was suggesting four possibilities: vagal reflex, arrhythmias, digoxin toxicity or a problem in the conduction system. Is it possible to view those differential diagnoses as in fact all perhaps being different aspects of the same one diagnosis, that is to say, does not digoxin act in part through the mediation of the vagal nerve?

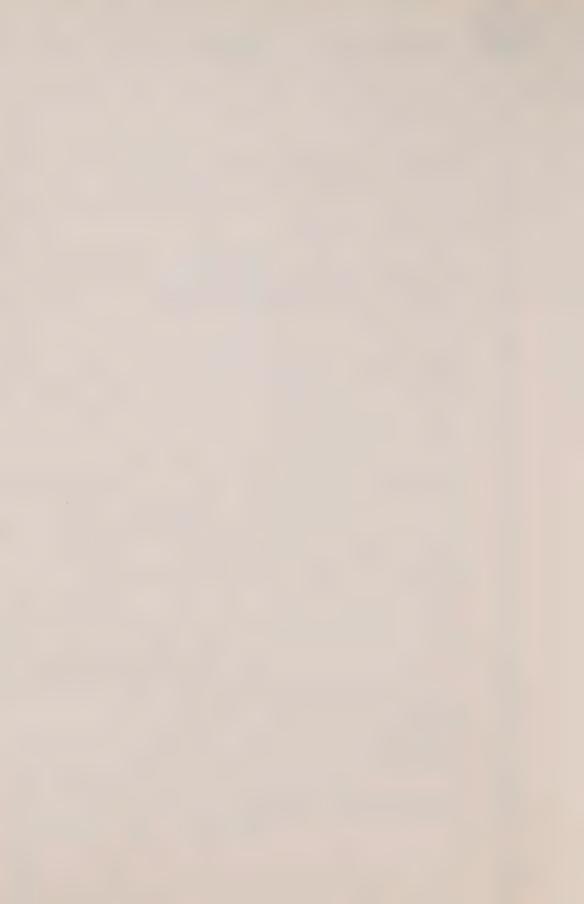
A. Certainly, yes.

 Ω . And therefore some involvement of the vagal nerve may reflect some digoxin effect upon that nerve.

A. Yes.

Ω. Arrhythmias we know can be caused by digoxin toxicity?

A. Yes.



Q. And digoxin we know acts upon the conduction system?

A. Yes.

O. And therefore it may be that in canvassing the possibilities what the resident was doing was canvassing four different versions of the same one differential diagnosis, that is to say, digoxin toxicity, not deliberately or intentionally, but he has really focused on four aspects of one thing, has he not?

A. That's true, except that there was no hard evidence for it.

Q. Yes, of course.

A. And the possibility that this may have been caused by other ctiologies in my opinion is a little bit remote. A vagal reflex for instance is usually pretty obvious, the nurse inserts the tube or the doctor and then suddenly the child collapses or the heart slows down markedly or arrests. Arrhythmia doesn't occur all of a sudden and without these pre-monitoring signs of previous arrhythmias.

Sick sinus node, there is no evidence for that really, that is, first of all, it is not that common and, secondly, you would also expect to





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have previous indications of that. So, I don't really see a very good reason. The child had severe congestive heart failure. That was the one diagnosis that we know for certain. That can be a very serious problem. It can predispose to many other problems that are listed here, certainly the arrhythmias, but again, there is no clear indication that this occurred.

Q. All right. Well, Dr. Hastreiter, are you still of the view that for the reasons that you discerned in the chart, this is a death too that where the involvement of digoxin toxicity has to be suspected?

A. Yes.

Q. Okay. Now, I think we have completed the list of those children who you reported as showing a good probability of digoxin overdose.

In light of what you have told us is meant by the category fair probability, that is to say, these are the cases where there is no strong suggestion but you can't entirely eliminate the possibility of digoxin involvement. In that category we have a number of children. They are Amber Dawson, Lillian Hoos, Philip Turner, Paul Murphy, Antonio Velasquez, Laurette Heyworth, Richard McKeil, Antonio



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Adamo, Colleen Warner and Michelle Manojlovich.

I don't propose to go through those cases separately.

Are you able to tell us, Doctor, whether there was some thread running through those cases which led you to have a low suspicion but one which could not be completely dispelled and, so, they were classified as fair. Is there something common to those cases that triggered this low index of suspicion?

A. Yes. As the category indicates these were the children in whom we would like to rule the possibility out but we couldn't completely rule it out because of one or another factor there that still remained unclear.





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There was some controversy about some of these cases. I remember very well that in Murphy, for instance, everybody else disagreed with me and I eventually changed my opinion I think.

Everybody else regarded Murphy 0. as a natural death?

Α. Everybody I think regarded Murphy as a natural death. When I reviewed his chart I also felt the probability of natural death was very high, but I wasn't quite sure about the event immediately preceding his death, therefore I classified him as a fair case.

THE COMMISSIONER: This is -- are we talking about Paul Murphy?

MR. LAMEK: Paul Murphy, yes.

THE COMMISSIONER: I'm sorry, I am reading from page 20.

MR. LAMEK: Of the Minutes.

THE COMMISSIONER: Of the Minutes, and there you did classify him as a natural death, did you not, Dr. Hastreiter?

THE WITNESS: Page 20?

THE COMMISSIONER: Yes.

THE WITNESS: Yes, that is right.

MR. LAMEK: Q. Both at the begining and at the end of the extract.

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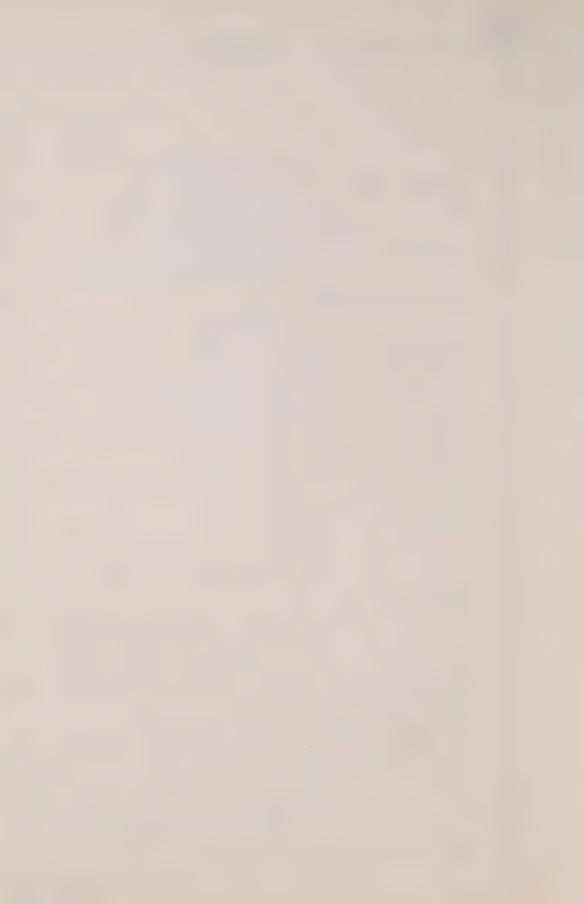
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A. Right. But I had earlier classified him as a fair.

Q. You placed him as fair on your rating, that's right.

A. Yes.

the COMISSIONER: I think you changed before you committed yourself on the Minutes, is that so?

THE WITNESS: Possibly, yes.

Definitely. I think there was some discussion then and by the time the Minutes were written I had already changed my mind, and I felt that this was quite reasonable because again Murphy was an older child, was very sick and there was good reason for him to die.

MR. LAMEK: Q. The other name in that list of fair probabilities that is perhaps surprising in light of the evidence that we have heard here is that of Lourette Heyworth. Would you tell us why you placed that child --

MR. SCOTT: What page is that?

MR. LAMEK: Hang on a minute and I

will try to find it. It is in two places.

MR. OLAH: One place is page 19.

MR. SCOTT: Mr. Olah says page 19.



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is, please.

page 115.

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MR. LAMEK: Thank you. Mr. Olah is usually right about these things.

Q. You are reported at the meeting of the 13th to have classified her as a natural death. Although in doing your report upon her you had indicated low and fair probability.

A. Can you tell me what page that

 Ω . I am looking for it now, sir,

Α. Thank you. Yes, this girl was another one that I had serious reservations about classifying her as a fair, really, but I was not quite certain about the terminal or the events immediately surrounding her death. She was an older child, eleven years old, with terrible central nervous system problems, who had a shunt operation performed, that is a central nervous system shunt for the circulation, to drain the hydrocephalus to prevent her from increasing the hydrocephalus and then she developed tricuspid insufficiency, which is a complication of this type of procedure; and she had very severe massive tricuspid regurgitation and she was really expected to die; she was really quite terminal. In addition she developed pulmonary emboli because of





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severe right heart failure. She had venous stasis, clots in her veins, and eventually they broke loose and went into the lungs. So that was a recurring problem here.

It may be, Dr. Hastreiter, and 0. I mean no disrespect, that the inclusion of people like Paul Murphy and Lourette Heyworth in the fair probability category demonstrates the low threshold people had to reach in order to get into that category, this was sort of an absolute -- how best can I put this? This was the category into which you would put people where there was the slightest question at all in your mind; is that fair?

A. I think you have to remember. or put yourself in the situation that we were in at the time. Our function really was to exclude, not to include, but to exclude the possible -- the cases, and the question here was, could this child be excluded with confidence, you know, on the basis of the information we had.

I think most of the cases that were placed in the category of small, the last category, we were absolutely certain were those who had either an intraoperative death or something, either very, very obvious.



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0 . Sure.

Α. But you are right. The

0. If there was the slightest question, you put them into the fair category?

> Α. Right.

If there seemed to be a rather more substantial question that needed to be pursued, they went into the good category?

> Α. That is correct.

Okay, doctor. Thank you.

Just one general question and then I want to come to the case of Gary Murphy, please.

THE COMMISSIONER: Before you do that, I would just like to ask one thing.

MR. LAMEK: Yes, of course, sir.

THE COMMISSIONER: That is the one name that is in the fair, but I would have thought under your standards would be under the good category and that is Velasquez, who no one seems to be able to account for his death except by describing it as an idiosyncratic adverse reaction to Naloxone, which apparently is the first in history to have that idiosyncratic death. Have you any views on that?

THE WITNESS: I wonder if we could



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review him briefly?

THE COMMISSIONER. Yes.

THE WITNESS: Because I don't remember the circumstances exactly.

THE COMMISSIONER: Yes, of course.

MR. LAMER: Page 119 of your binder, doctor.

You classified him as suspicious at the meeting, as did almost everyone else, but I just wonder why he was put at fair and not at good in your classification scheme?

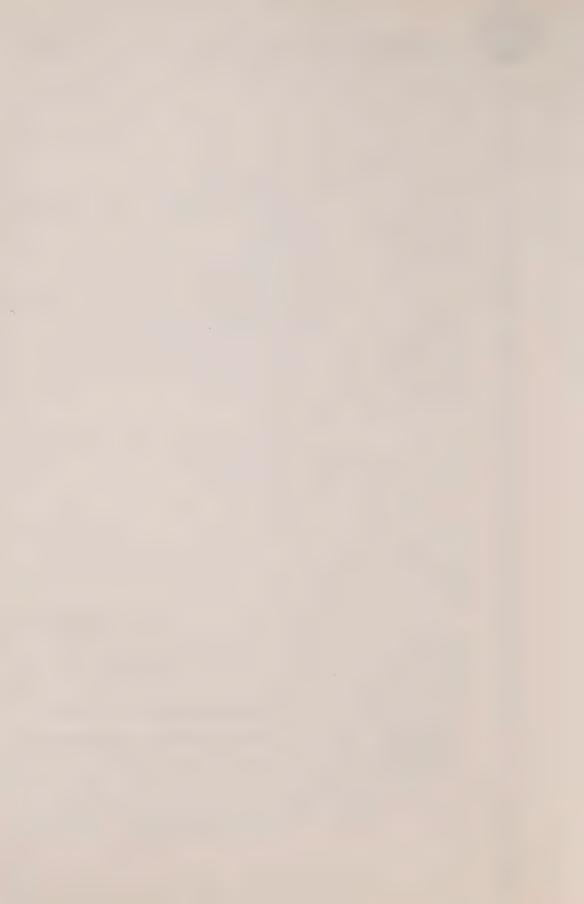
THE WITNESS: We have no toxicological information on Velasquez I don't believe.

THE COMMISSIONER: NO.

THE WITNESS: I believe -- I know they were trying to have the body exhumed and the baby had been buried way down in Santa Lucia in the West Indies where the family originally came from.

This child had a regular tetralogy of Fallot, that is not a bad lesion, it is a fairly common situation; had cardiac catheterization surgery but he was a year old or so, yes, just about a year old. The initial post operative recovery was good, no major problems there. Then, two days following the operation he received 8 mg. of Codeine times 3. He had a persistent tachycardia which was

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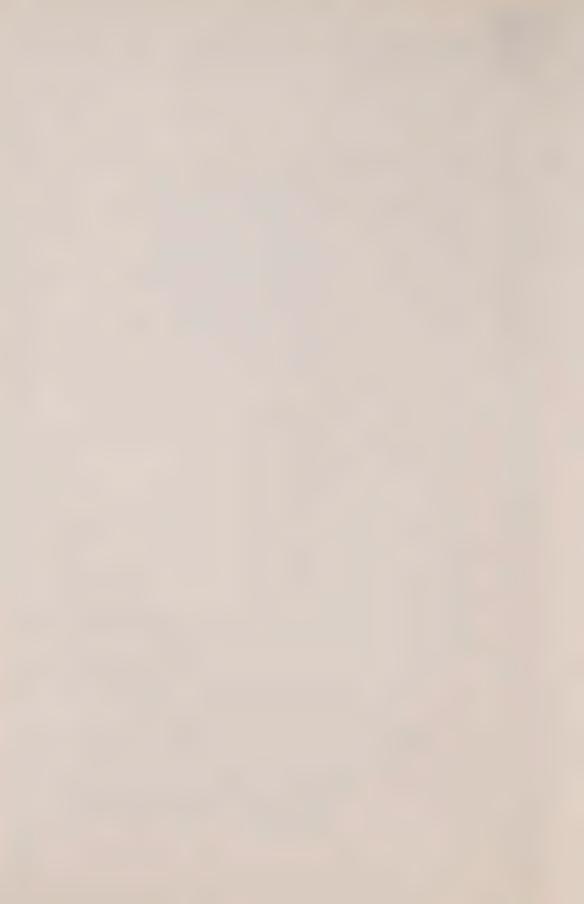


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felt to be related to the pain from the chest incision and because of the tachycardia at 2130 hours a dose was given three hours earlier I believe, or was given three hours following his previous dose of Codeine. Then the heart rate decreased to less than 90. He was given 0.2 mg. of Naloxone and shortly thereafter he died, developed sort of a seizure, cardiac arrest and died. Death was attributed to an idiosyncratic reaction to Naloxone. The dose of Naloxone given was high, but serious reactions to Naloxone are virtually unknown except perhaps in very old people, or in older people.

I agree, when I first looked at this child's chart, I was fairly concerned about it. There is a letter by Dr. Rowe in here where he also summarized the situation, and I am sure he testified to it earlier, and he states, this is in his final paragraph, this is page 3 of this chart:

"The conclusion reached was that the probability was the greatest that this was an idiosyncratic drug response in an infant whose post operative course was complicated by early heart failure and probably infection."



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But none of these was a very serious

problem.

THE COMMISSIONER: I don't want to induce you to change your view on it.

THE WITNESS: No.

THE COMMISSIONER: But I thought you could perhaps tell us why it was fair, because I would have thought under your standards where good simply means that you meet more consideration; is there anything about the death of the child that makes you think it is inconsistent with digoxin intoxication?

THE WITNESS: No, I really don't.

In fact, I am surprised myself in looking back and I think the reason was because I remember that we were very concerned and in fact we tried to have the body exhumed. This was one of the children in whom I think efforts were made to have the body exhumed, and I think because of the fact the body had been taken to be buried in Santa Lucia it became a very serious problem, but I know we were very concerned about it. It may be that perhaps Dr. Rowe's opinion and the other cardiologists' opinion that the Codeine and Naloxone incident was perhaps a satisfactory explanation had something to do with our categorizing him,





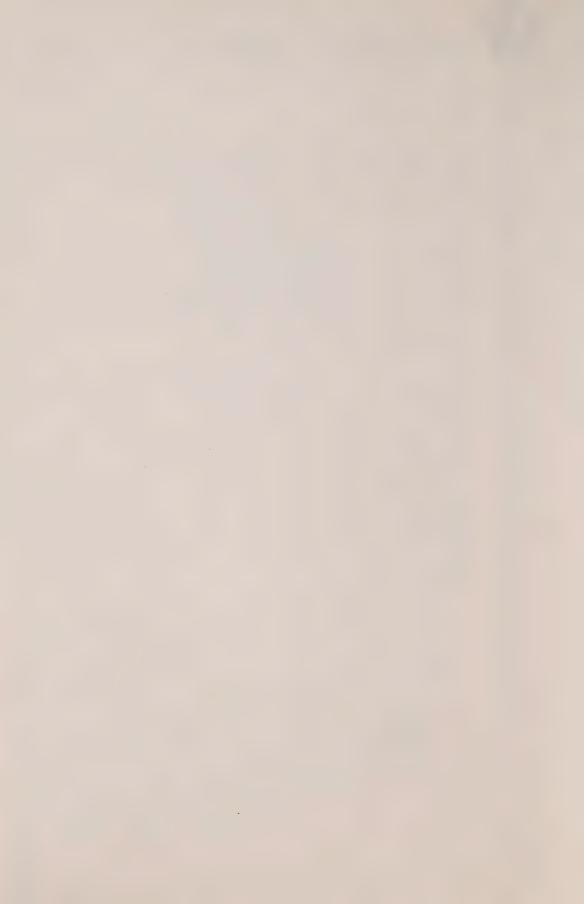
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although I am not -- I think in reviewing the situation now with respect I would probably agree with you that he certainly is a good candidate.

MR. LAMEK: Q. Let us stay with that for a moment, doctor, because it is apparent we are not going to deal with Murphy before lunch and rather than start him let's deal with this for a couple of minutes if we may.

receive an overdose of digoxin as to which there is no clear evidence, obviously, would you think that the bradycardia which was attributed by the clinicians to the effects of Codeine could have in fact be the result of digoxin toxicity? It was the bradycardia you will recall that prompted the administration of the Narcan.

A. Right.



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Α.	Right.	It	certainly	could	have

- Now, if indeed the child 0. were suffering the toxic effects of a digoxin overdose, is it likely in your view that he would have responded favorably to the first administration of naloxone as apparently he did?
- Well, he was also receiving Α. codeine.
 - 0. Yes.
- And I think it may have been a combination. Naloxone has no effect on digoxin. It has only effect ---
 - Yes, of course. Q.
 - -- on the narcotics. Α.
 - That is essentially what I am 0.
 - Right.

suggesting to you.

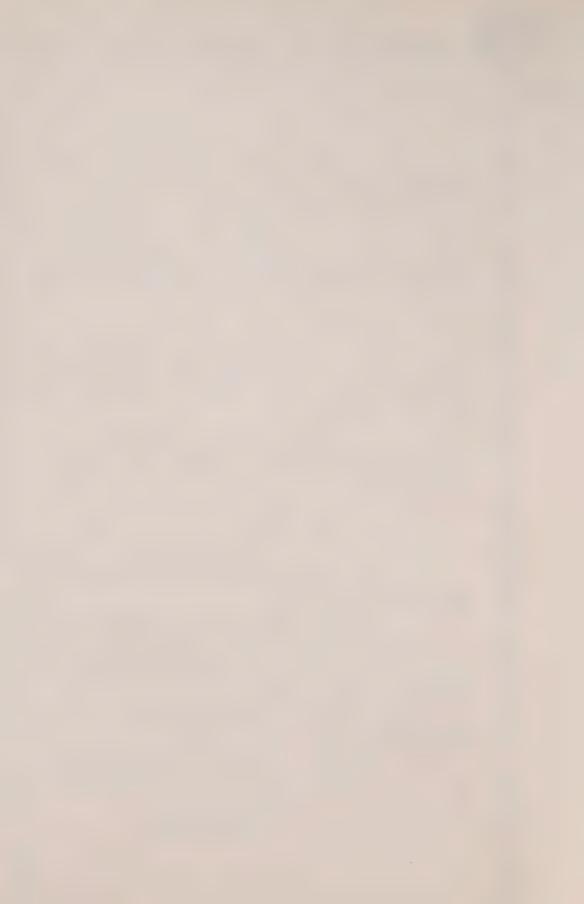
- If he were bradycardic because of digoxin overdose rather than as was believed codeine overdose ---
 - I see. A .
- -- I take it naloxone would Q. not have caused any improvement in him.



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2	A. So you are saying that his
3	bradycardia improved also. The heart rate is
4	there any good evidence for that do we know?
5	Q. Well, the evidence of the
6	unhappy man who was involved in the thing. On Pages
	4 to 5.
7	A. Yes.
8	Q. The resident who administered
9	this naloxone did write a memorandum concerning the
10	incident. On Page 5, Line 2:
11	"When I arrived at the bedside,
12	Antonio was somnolent and difficult
13	to arouse."
14	A. Page 5?
	Q. Page 5 of the chart. I'm sorry
15	THE COMMISSIONER: The numbers are at
16	the top right hand corner.
17	MR. LAMEK: Q. It is 000005.
18	A. I have a pathology report on
19	Page 5.
20	Q. Are we looking at the Velasque
21	chart?
22	A. Yes. Oh, there is another
Ì	Page 5?
23	O The first Page 5



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Yes, the first Page 5. Α.

Q. Okay.

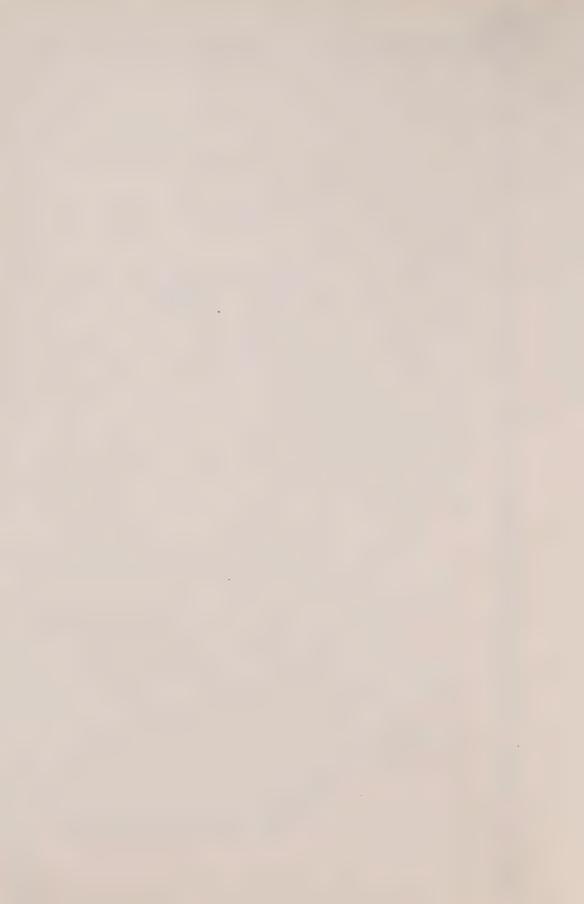
"When I arrived at the bedside..."

Savs Dr. Wilkinson.

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TORONTO ONTARIO

"...Antonio was somnolent and difficult to arouse Peripheral pulses were easily felt (except in the right arm due to the shunt). Blood pressure in the left arm was 90/P; temperature was 35.3: pupils were constricted; abdomen was soft; liver edge was sharp and no more than 2 cm below the right costal margin. Because of the papillary finding and the bradycardia and slowed respirations I felt the child had had too much codeine and asked for .4 mg noloxone to be drawn up. A new IV had to be started and this was done in a right temporal scalp vein. The IV solution was connected and .2 mg naloxone was given IV (half cc. in to the tubing). Within five minutes the heart rate increased to 140/min., pupils dilated to 2-3 mm and were responding more



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TORONTO CONTARIO

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briskly to light. Antonio's activity increased but he did not become fully awake. The remainder of the raloxone was given into the IV tubing with the intention to run it in at a steady rate but Antonio promptly had extensor posturing and loss of detectable cardiac electromechanical activity."

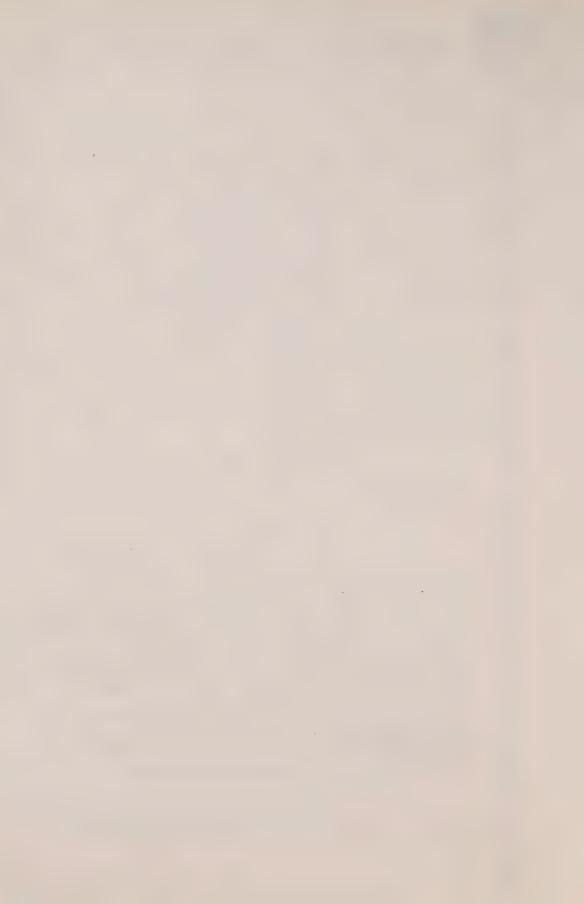
There appears to have been a significant response to the first dose of m loxone.

I think this question is rather complicated.

Yes.

Because as you know digoxin has a very important vagal effect. The narcotics also have an important vagal component, and I don't think it is impossible that this vagal action has been abolished now through naloxone because of a combination of codeine because this child was receiving codeine, and if he had received digoxin additionally that tachycardia may have occurred, but this is only speculation. This is really a hypothesis.

Q. Have you any opinion or basis for forming an opinion as to the likelihood of the



administration of .2 milligrams of naloxone reversing the bradycardia as it did, if that bradycardia had been the result of digoxin toxicity.

- A. Of digoxin alone?
- Q. Yes.
- A. It would be very unlikely that it would have reversed.

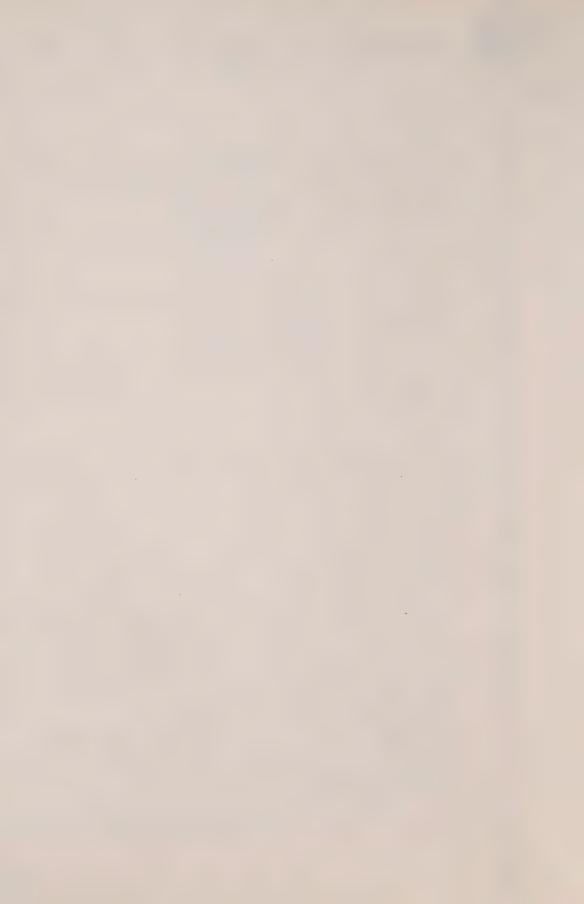
However, subsequent to that he developed again bradycardia I would imagine because he died.

Q. That is not quite what he says. The report says from the person involved that all of these good things happened, but if good things had happened from .2 apparently the resident thought that maybe better things would happen from .4 and he administered a further .2 milligrams and,

"Antonio promptly had extensor posturing and loss of detectable cardiac electromechanical activity."

There doesn't seem to have been any slowing of the rate; it just seems to have stopped.

A. That is right. This looks
more like a cerebral central nervous system type
situation and I would say -- I would be quite
confident -- he had bradycardia and finally arrested





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at that time, but it would be impossible to separate because he was having a seizure or was having some kind of an opisthotonus related to this CNS depression or stimulation actually.

I think this is probably another reason that prompted us not to include him in the good category, the fact that somebody was at his bedside when it happened because it happened immediately following the naloxone. There appeared to be a time relationship and the symptoms were somewhat more suggestive of a CNS involvement really, central nervous system, but, you know, digoxin occasionally can do that also, and it is difficult to sever.

We certainly -- the categorization is always difficult, but there certainly is significant suspicion or there was, you know, in this particular case because I remember full well that we tried to exhume the body.

THE COMMISSIONER: Yes. All right.

MR. LAMEK: Doctor, we have run

to exactly one o'clock and after lunch we can deal

with Gary Murphy if we may and then I will have

completed my examination.

THE COMMISSIONER: Very well. Until



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MR. SCOTT: Mr. Commissioner, we will try by the end of the day or first thing in the morning to get a note of the pages in Dr. Rowe's and Dr. Freedom's and any other doctor's evidence ---

THE COMMISSIONER: We may be able to supply them ourselves.

MR. SCOTT: There are I think 15 babies that my friend has been dealing with. It may be that your computers ---

MR. LAMEK: You mean other than that last fair group?

MR. SCOTT: Well, I take it that my friend is not going to proceed with this fair group except ---

MR. LAMEK: Except to the extent that

I have, yes.

THE COMMISSIONER: Before we forget,

Mr. Hunt or Ms. Cecchetto, are you going first?

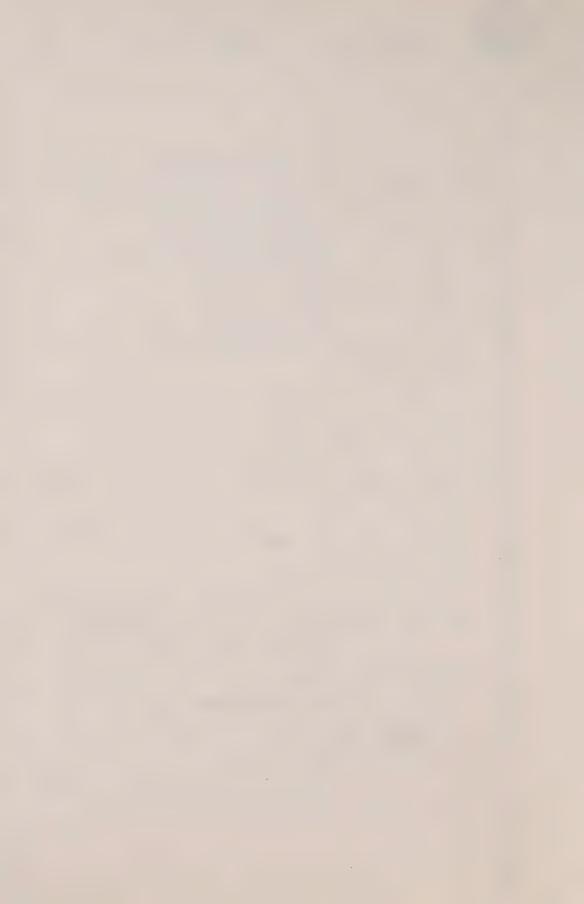
MR. HUNT: Well, I have never met

Dr. Hastreiter before.

THE COMMISSIONER: He is not exactly your best client.

MR. HUNT: No.

MR. SCOTT: Well, there is no reason to stop these introductions.





sure.

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MR. HUNT: But under the rules as they have been laid down sort of loosely, I wouldn't object to going first.

THE COMMISSIONER: To going first, right, as long as you can also go last?

MR. HUNT: Yes.

THE COMMISSIONER: Yes. All right.

Then I think you will be first on then. I don't know, there will probably be the same suggestion that you go on second and if you want to -- is that all right by you?

MR. YOUNG: I have no objection to going second but again, Mr. Commissioner, we would appreciate the opportunity of going last or second last.

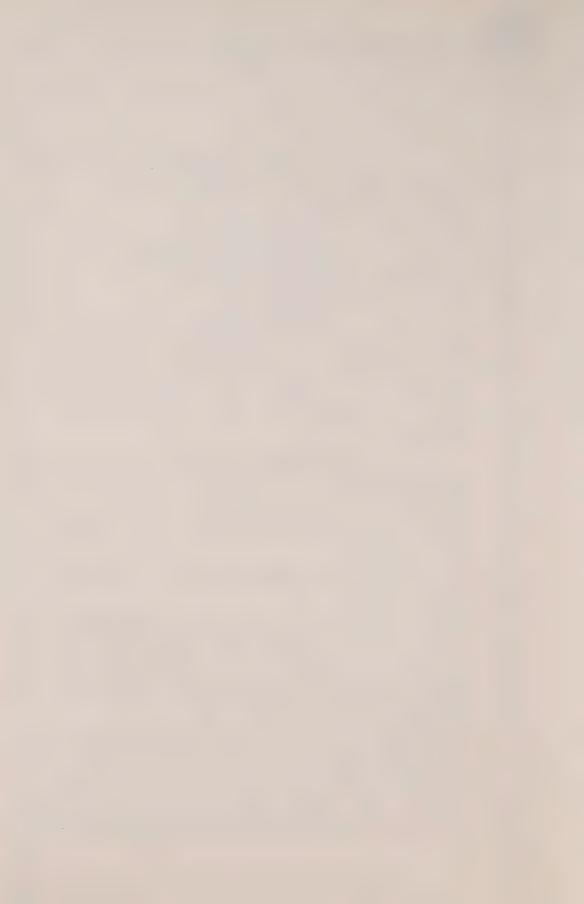
THE COMMISSIONER: Well, I am not too

MR. YOUNG: Well, with respect --THE COMMISSIONER: Yes, I think if
you are forced on second you should be allowed to go
second last in the same way.

MR. SCOTT: Well, to be practical what

I am really suggesting is that it seems to me there
is going to be a considerable volume of material read.

If we finish everybody but Mr. Ortved and myself today---





for.

THE COMMISSIONER: Well, we wouldn't.

There is not the remotest chance about that happening.

There is no chance whatever, and I think it is unlikely...if everyone else can go on it is most
unlikely that they will all be finished by tomorrow
either.

MR. SCOTT: That is what I am looking

THE COMMISSIONER: So the probability is it will be Monday, but I don't want to deter you from getting anything ready tonight if you can.

MR. SCOTT: No, but it is no problem because my questions are going to be very simple which are to ask Dr. Hastreiter to comment on all that evidence, and the problem was frankly -- I know he has been amusing himself on the town no doubt but it will be a burdensome task for anybody to read it in a short period of time.

MR. ORTVED: You want to spoil his weekend; not his evening?

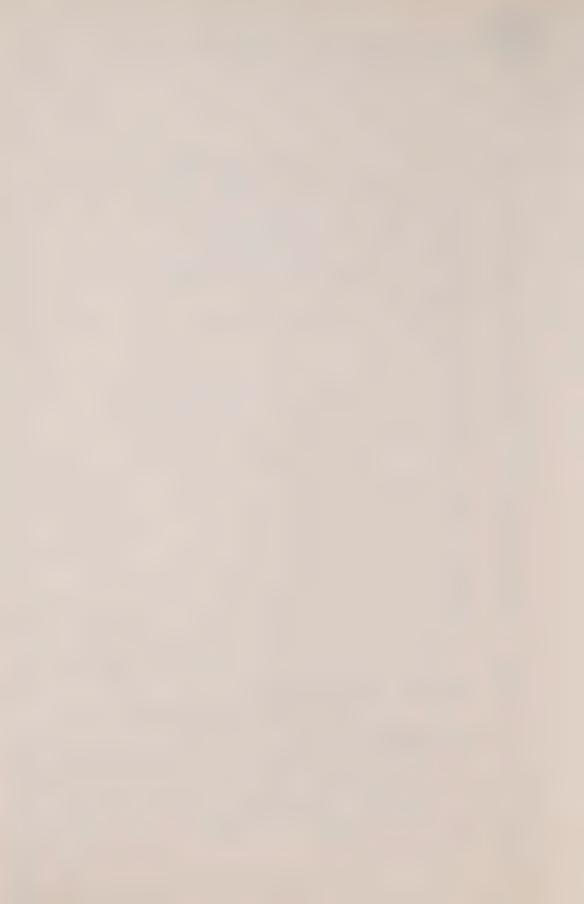
MR. SCOTT: In Chicago there is presumably nothing to do on the weekend.

THE COMMISSIONER: All right, very well.

Then until 2:30 this afternoon. We will see how we

make out at the end of the day.

---Noon adjournment.



this morning.



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--- Upon commencing after the luncheon recess.

THE COMMISSIONER: Yes, Mr. Labow.

MR. LABOW: Mr. Commissioner, I would like to present a problem to you that I perceive regarding Mr. Scott's and Mr. Ortved's submissions

THE COMMISSIONER: Yes.

MR. LABOW: I would not like to cross-examine this doctor prior to Mr. Scott cross-examining the doctor because there is no doubt in my mind that he will be asking questions about at least one or two of the children that I represent.

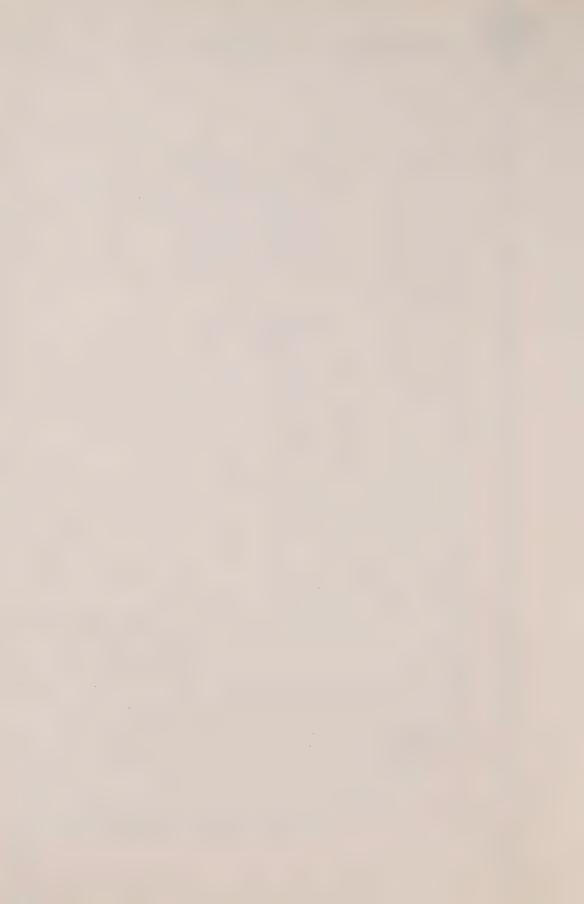
THE COMMISSIONER: Yes.

MR. LABOW: And I would like to hear the doctor's answers to Mr. Scott's questions so that I have an overall picture before I am forced to cross-examine this doctor on the same children.

I understand the scheduling problems and I understand his position fully and it may cut down his cross-examination but I would ask that I not be forced to cross-examine prior to my regular turn, which would be after Mr. Scott and Mr. Ortved.

THE COMMISSIONER: Yes. Well, it may be an academic problem.

MR. LAMEK: It may be an academic





problem, true.

THE COMMISSIONER: Because we may not reach either you or them before Monday. I wonder if we could leave it. I have enough trouble making decisions when I have tomake them, but I think there is a good deal of merit in what you have to say.

MR. LABOW: Thank you.

THE COMMISSIONER: So, you can warn ...
Mr. Scott there is a problem that the troops are not falling into line quite as well as they might.

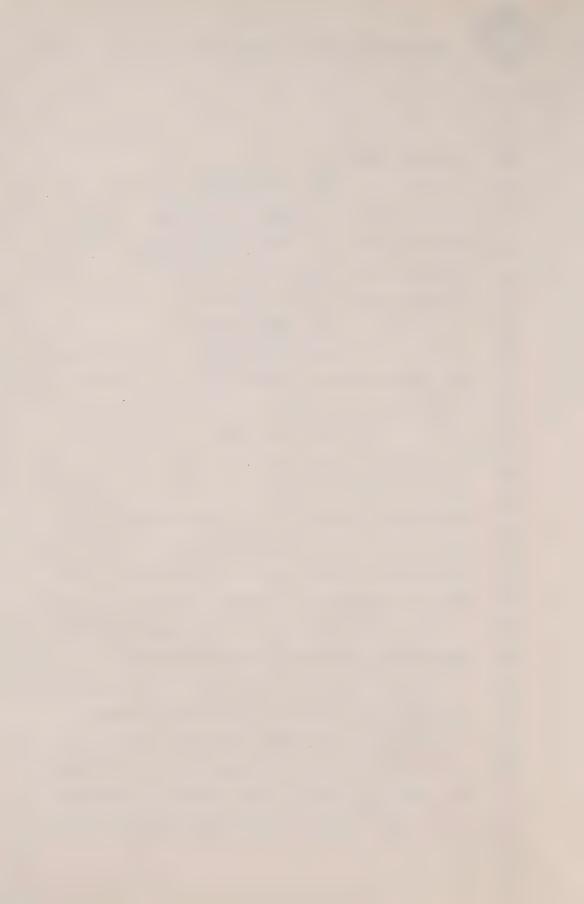
Yes, Mr. Olah?

MR. OLAH: I am just wondering, sir,
I would like to know where I am going to be tomorrow
in terms of whether I have to cross-examine or not.
It now looks like I would be reached, in the normal
course of events, without Mr. Ortved and Mr. Scott
proceeding tomorrow afternoon. If that stage arises
or that situation occurs, will Mr. Scott precede me
or would you like me to precede Mr. Scott?

THE COMMISSIONER: Well, I don't think he would be in the same difficulty as Mr.Labow.

MR. OLAH: Certainly not.

THE COMMISSIONER: So, if you would be ready to go on if you are reached, and the same thing applies to Mr. Knazan or Ms. Jackman, if you





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can get the word to them. I would like them to be able to go on tomorrow.

MR. OLAH: I guess what I am trying to get some feel for, sir, is if we are reached tomorrow afternoon would you ask Mr. Scott to precede me or would you prefer that I precede him?

THE COMMISSIONER: Well, I think I would prefer that you preceded him because it's a question of---

MR. OLAH: Fair enough.

THE COMMISSIONER: But, remember, tomorrow afternoon, now that people have straightened me out on the calendar, it is tomorrow afternoon that we are going to rise early.

MR. OLAH: What time will that be,

THE COMMISSIONER: About 20 to 4.

MR. OLAH: Thank you.

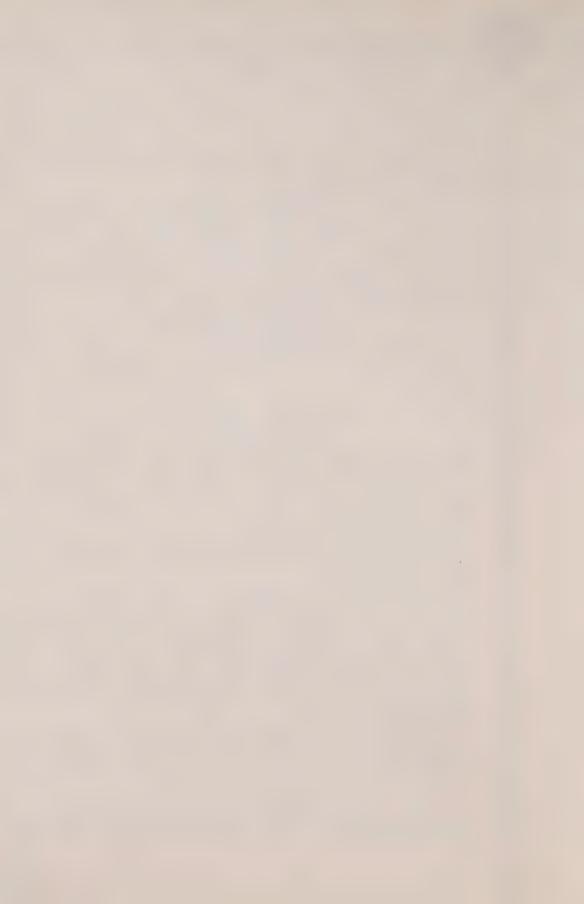
THE COMMISSIONER: Yes, Mr. Tobias?

MR. TOBIAS: Mr.Commissioner, I would

THE COMMISSIONER: Second Mr. Labow's

MR. TOBIAS: Yes. I am in the same

identical position and have the same identical concerns.



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THE COMMISSIONR: Yes, all right, thank you. But Miss McIntyre you will go on, will you, when you are reached?

MS. McINTYRE: Tomorrow, yes.

THE COMMISSIONER: But not if you are reached this afternoon?

MS. McINTYRE: No, I would prefer not to, Mr. Commissioner.

THE COMMISSIONER: I think we are all turning into a race of prima donnas in this case.

Well, all right, I think that is an academic concern.

Yes, all right, Mr. Lamek.

MR. LAMEK: Perhaps I should go very

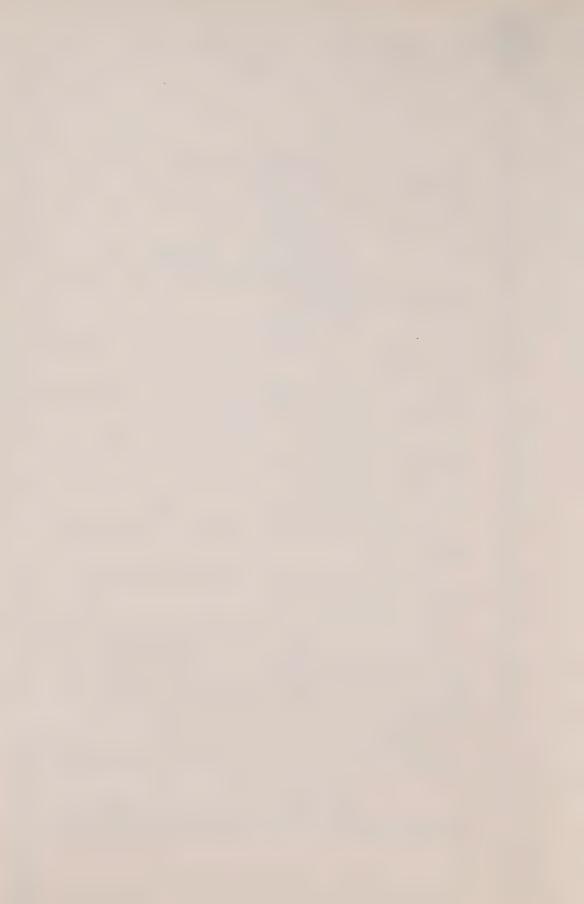
MR. TOBIAS: Filibuster, Mr. Lamek,

MR. LAMEK: Q. Dr. Hastreiter, could we turn then please finally to the case of Gary Murphy who died of course in the spring of this year. Do you have the chart available to you?

I see the Registrar is going to give

Now, let me be clear, Dr. Hastreiter,

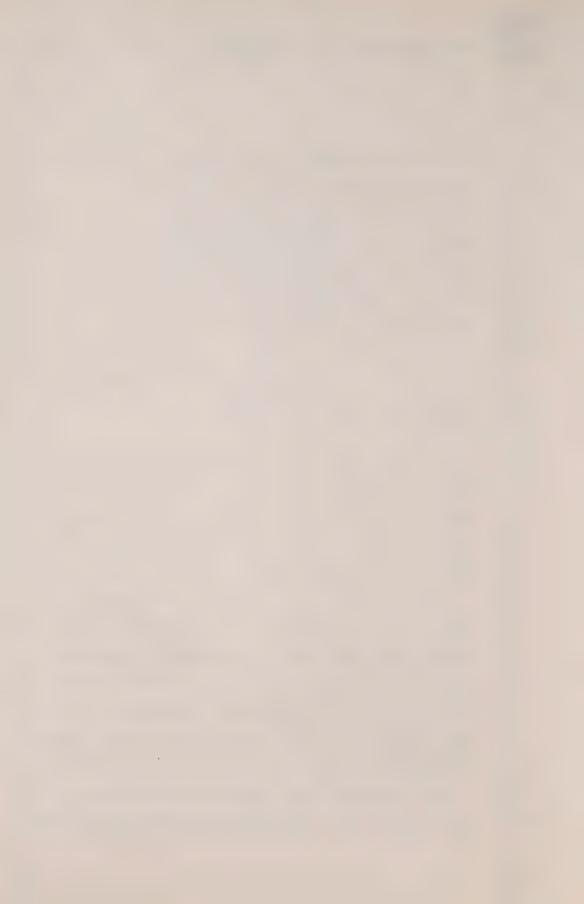
Gary Murphy is not one of the children in whose deaths



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we are here concerned, but obviously his death and the opinions that emerged concerning it are of interest as they may bear upon the view that this Commission, the Commissioner may take of some of the deaths in the period in which we are particularly concerned. Now, you were consulted about the death of Gary Murphy, I understand?

- A. Yes.
- Q. And you gave evidence at the inquest into the child's death.
 - A. Right.
- Q. It may be, Doctor, that the easiest way to proceed is for me to ask you if you would be good enough to summarize please the matters-from the child's chart -- that you consider to be of significance in understanding the death of the child.
- A. Gary was a five month old
 baby with a very severe form of congenital heart
 disease associated with an absent spleen, asplenia,
 and usually asplenia is associated with very severe
 heart disease, often inoperable. I believe that he had
 been in and out of the hospital several times and at
 home he was receiving oxygen at least intermittently.
 I think I remember this correctly, correct me if I
 am wrong, his last admission to the hospital occurred





then in March, on the 27th of March, '83. He was born on the 1st of October of '82. So, he was five months old. He had signs of an infection, then he was worked up, treated, infection improved and then he developed another infection which appeared to be a GI problem. So, he had his ups and down periods in the hospital. Then approximately one month later on the 23rd of April he died and at that particular time he appeared to be reasonably stable, but of course concerning his general condition he was a very extremely cyanotic baby who required oxygen I think continuously at that time and still had tachypnea and every so often he had infections, too; a complicated picture, plus cardiac failure.

Q. So, I think the last important event preceding his death, medical event, had been this GI tract infection which had occurred approximately, almost two weeks earlier when he had repeated vomiting, I believe he had diarrhea, yes, and virus had been isolated from his stool, which was thought to be responsible for it.

Subsequently though he had been reasonably stable and then on the 23rd -- maybe I should read some of the note here -- he spent a good day with his parents, being quite alert, happy;



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Examination was not changed from previous days, showed no signs of heart failure.

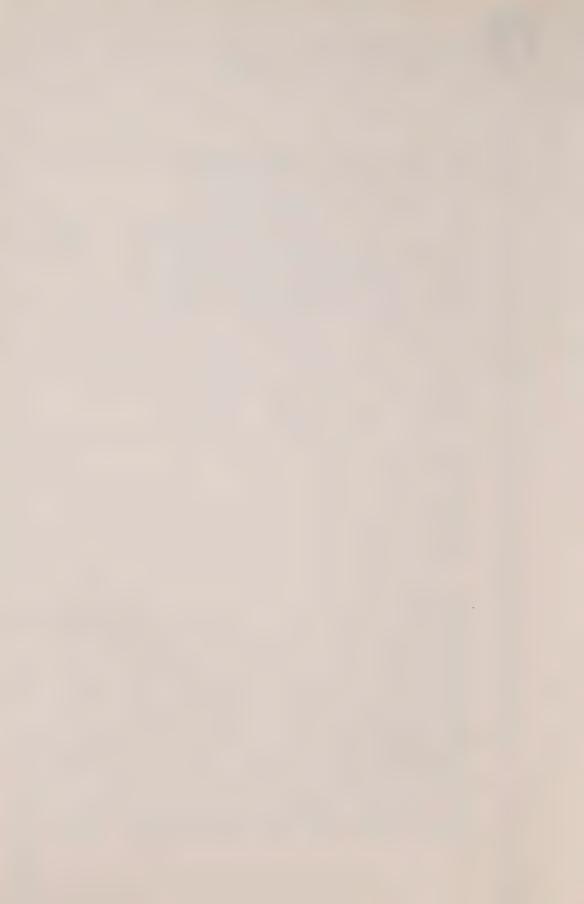
At ten minutes past 6 p.m., 20 minutes after the parents left he was found by his nurse to be deeply cyanosed and was gasping respiration.

Shortly thereafter, breathing -- I don't understand what this means here -- bowels seized -- breathing, he stopped breathing anyway and resuscitative efforst were started. He failed to respond and he was finally pronounced dead at 18 hours and 40 minutes.

So, this is I think a summary of the main medical events.

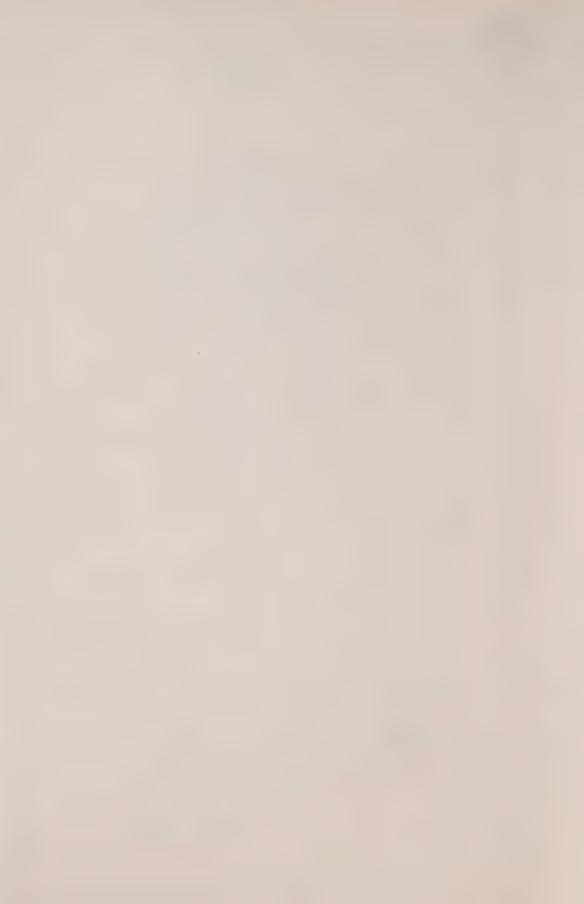
Q. Right. You have referred,
Doctor, to the child's lack of a spleen. What is the
significance of that in clinical terms?

A. Well, there are two groups of patients who have very severe forms of congenital heart disease and there is a relationship with the development of the spleen and the heart. So, patients who have no spleen very often, not always, but very often will have very severe types of heart disease where the heart, the formation of the heart is interfered with very early in its development and the earlier the interference the more severe the problem usually, and this is what happens.



So, in these cases, the heart, instead of having developed its normal functional structure, it becomes sort of like a symmetrical structure, it has two identical sides, it has the pulmonary veins from both sides coming in symmetrically. It is a symmetrical sort of arrangement, so to speak.

Usually there is severe pulmonary stenosis or atresia. The division inside the heart has not developed appropriately, so, you may have a single ventricle, you may have a common atrium, you may have a common AV valve. As I mentioned earlier, the symmetrical pulmonary veins, sometimes the symmetrical systemic veins are the most horrible malformations really that can be imagined.



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Then there is a group of poly-spleen where the spleen is only partially developed, is very rudimentary.

Then you also have severe heart disease but not as severe as when the spleen is totally absent.

The prognosis is very poor. These children usually live, you know, only a few weeks or months, or occasionally a little longer than a year.

Q. Well, other than as it may indicate very great severity of cardiac problems, is the lack of a spleen in itself of any particular clinical significance?

A. Yes, it is, because it also has to do with the immune system of the body and the susceptibility to infections. So these children are much more susceptible to certain types of infection because their immune system is compromised because of the absent spleen.

Q. So we have then an extremely sick child with very serious congenital heart defects. I understand from my reading of the chart that it was the conclusion in the Department of Cardiology at the Hospital that this child could not be helped by surgery.

A. That is right. It is extremely rare these days that a child cannot be



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helped with surgery, usually there is something that can be done. But unfortunately one of the situations is when the pulmonary arteries are so small that there is nothing to connect, they are not large enough to connect them to anything that would provide a good supply of blood to the lungs, and this is the problem.

Q. And the condition therefore being considered inoperable at the Hospital, was there anything in your judgment as a pediatric cardiologist that could be done for Gary Murphy to alleviate his condition in any way?

A. No, I don't believe that anything could be done.

Q. You said that children with the kind of difficulties that Gary Murphy had normally do not live more than a few weeks or a few months.

A. Usually, yes.

Q. At the time of his death I think as we know he was a little less than seven months, or maybe just over six months, but in that order.

Doctor, let me ask you to attempt to do something and it may be rather difficult. I ask you to put out of your mind, please, whatever other

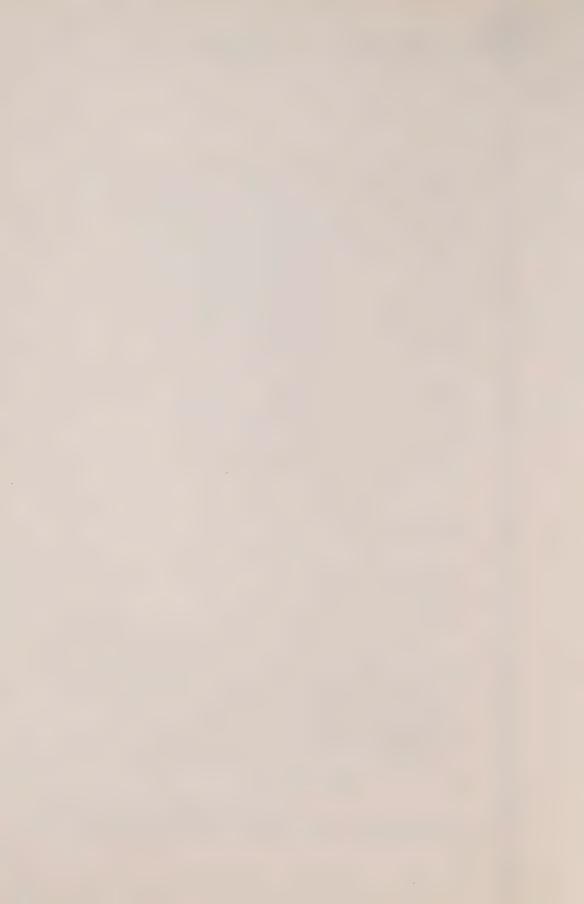


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information you may have going to digoxin levels or anything of that sort, and I want you to do the exercise please that you did with the various children whose deaths you reviewed in 1981 and 1982.

Can you tell me on the basis of
Gary Murphy's clinical condition and course, as
disclosed by the chart, would you rate it as a small,
fair or good probability that this was a case of
massive digoxin overdose? Perhaps I should ask you
first, how on your scale of 0 to 10 would you rate
the severity of this child with his cardiac disease?

- A. 9, I mean 10 is --
- Q. It is difficult to know what you rate a 10.
- A. Yes, 10 would be the extreme, I don't know what to rate a 10, but I would say it is as high as 10.
- Q. I'm sorry. Now, on the basis of his clinical condition can you do for this child the exercise that you did and you have explained to us for all the other children?
 - A. It is very difficult to do.
 - Q Yes.
- A. I mean, there is no question that his death was expected. On the other hand the

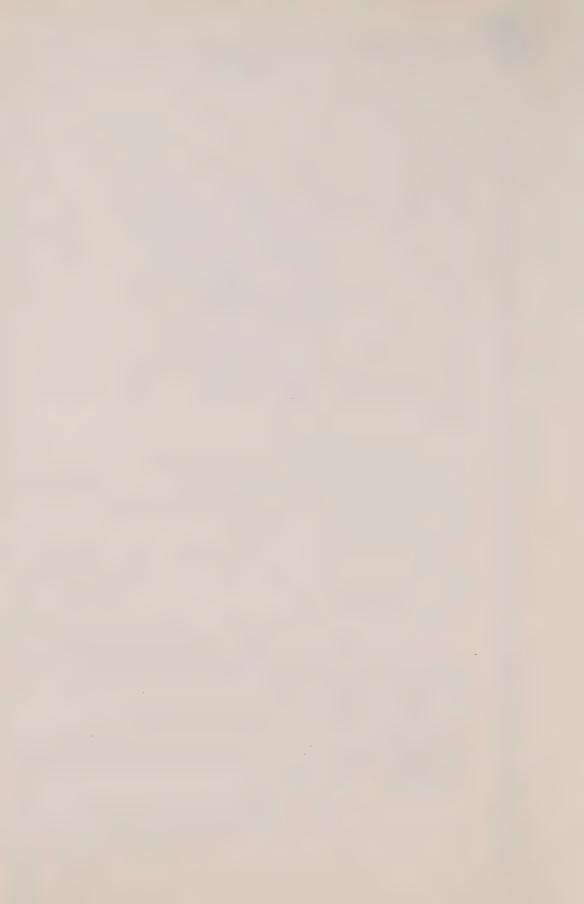


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baby had been reasonably stable for the period preceding his immediate death, but stable for him was - a baby who was extremely handicapped, he was very blue, very cyanotic and it wouldn't take very much to tip him over and produce his death.

So my classification of Gary would probably be in the fair category. That is, I would almost eliminate him, but I would have a little bit of suspicion left because, simply because of the way he died.

- Q. When you say the way he died,
 I take it you are in part referring to the period of
 relative stability that preceded the arrest?
 - A. Exactly
- Q. Are you referring to anything other than that?
 - A. No.
- Ω . There was not anything about the mode of death that struck you as suggestive of digoxin intoxication?
- A. As I had indicated earlier, you know, the unexpectedness and suddenness was always a factor.
 - O. Yes.
 - A. In the consideration of other



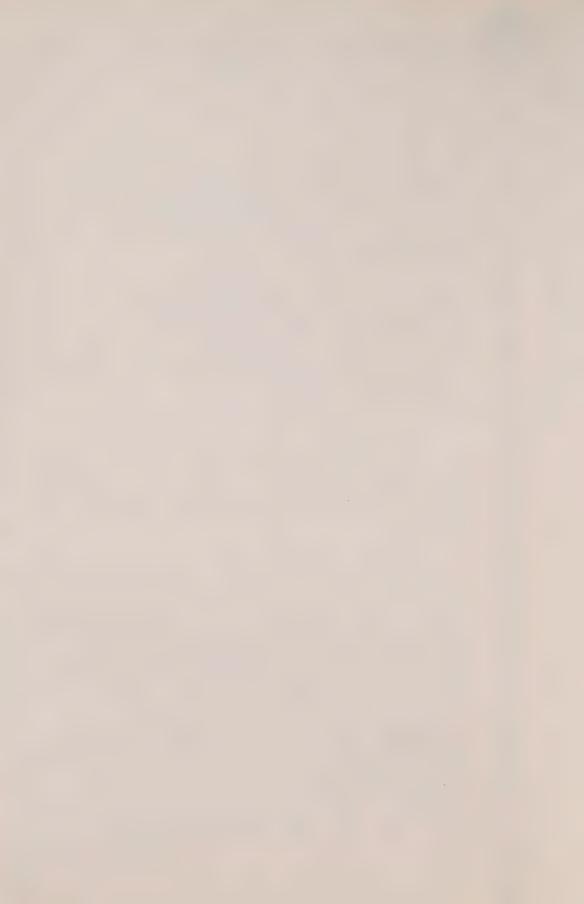
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babies, and I must in all fairness say that we have here a little bit of suddenness and some unexpectedness also, in relation to the baby's course just prior to his death.

- Q. So you would rate him as a fair probability, and as I have understood your evidence to date that means that you could not entirely exclude the possibility that digoxin overdose was involved in his death?
 - A. That is correct.
- Q. Now, having gone then through the clinical picture, let us adhere as you did with the other deaths, such toxicological information as we have.

It appears from page 142 of the chart and there may not be any need to turn to it, Doctor, that the last ante mortem digoxin level that we have on this child recorded 1.5 nanomoles per litre. As I understand it we are applying a conversion factor of a little over 75 per cent to that, and therefore in the units in which we are accustomed to dealing in this Commission at least, I take it we are looking there at something slightly over 1 nanogram per millilitre. That was on April the 4th, and the child died as you have said on April 23rd and there is no





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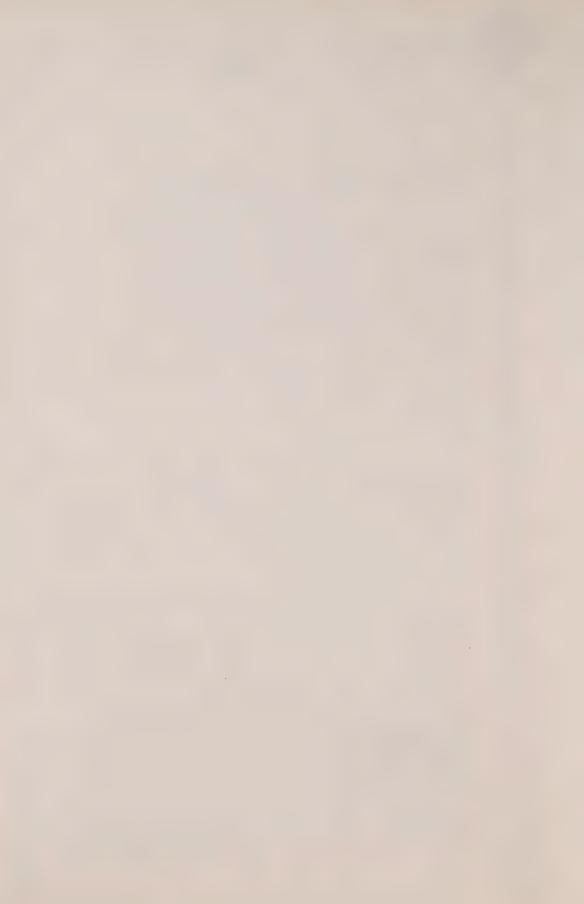
intervening digoxin level in the chart.

So far as post mortem blood levels are concerned there were a number achieved at the Hospital for Sick Children in heart blood, which was drawn on the evening of the day that he died, a level which I have converted, or has been converted to 18.7 nanograms per millilitre was recorded, and sagittal sinus blood taken at autopsy at 4:30 the following morning the same level was recorded 18.7 nanograms.

In heart blood that was drawn at 6:45 on April 24th, initially a level greater than 5 nanograms was recorded, and apparently 18.7 nanograms again a remarkable consistency between the assays conducted at the Hospital.

A. What was the location of the last one?

- O. The heart blood.
- A. The heart blood?
- Q. At the Centre for Forensic Sciences, and this is contained, Mr. Commissioner, in Exhibit 232B, and I invite you, if you don't have this information, Doctor, to look over my shoulder at this one. This is really a compilation of post mortem digoxin levels on children who died at the



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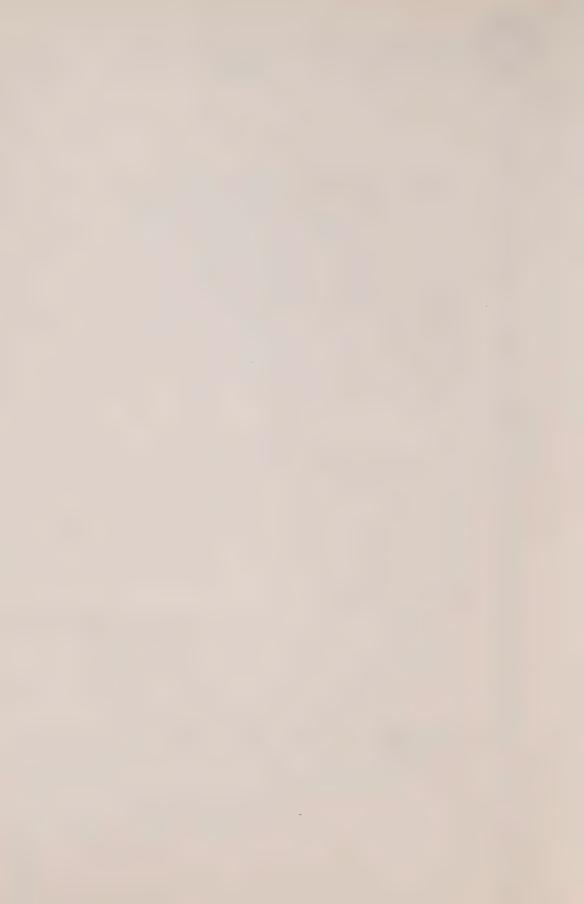
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please.

Hospital after March of 1981, but it includes the levels recorded on Gary Murphy, and they are on page 2, Mr. Commissioner, under No. 31 on the extreme left hand side. A whole series of 2, 4, 6 levels all obtained at the Centre for Forensic Sciences, ranging from 18.9 in a sample drawn from the sagittal sinus, up to 32.2, and these are in nanograms per millilitre in heart blood, levels essentially of the order that we saw in the case of Kevin Pacsai.

Now, Doctor, taking into account the post mortem digoxin levels, let me ask you this question and again it may not be a particularly easy one. If this death had been one of those that you were reviewing in 1981, how would you have classified it in the light of all of the information, clinical and toxicological?

A. Would you give me just a second





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0. Yes, of course.

Mr. Commissioner, Miss Cronk reminds me that Exhibit 226 is the actual report from the Centre for Forensic Sciences setting out these results.

THE COMMISSIONER: 226?

MR. TAMEK: 226.

THE WITNESS: I think maybe before I answer the question ...

MR. LAMEK: Q. Yes.

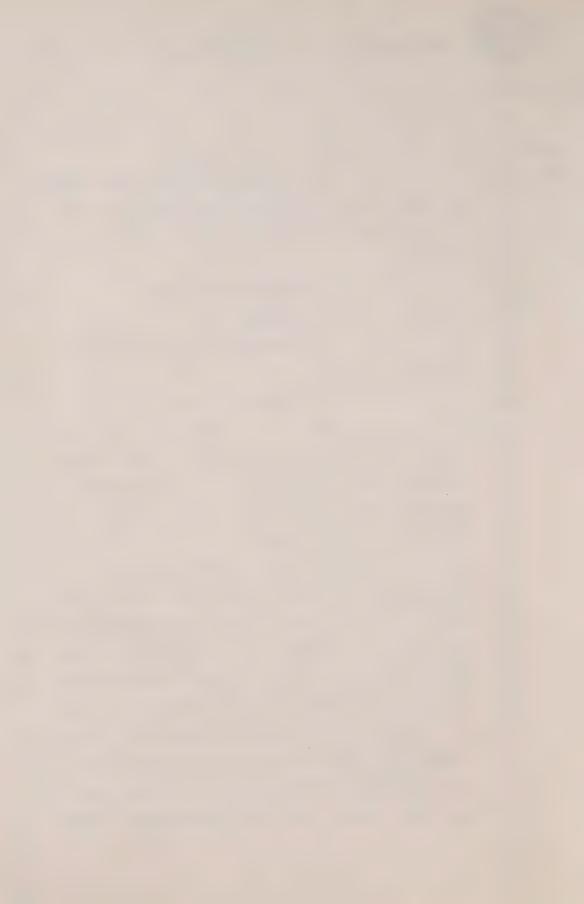
A. ... I could make a few comments.

First of all it is very difficult to answer again because it is very difficult to be placed back in a situation that one had been a couple of years earlier or at least a year earlier.

I think in some ways this baby is comparable to Estrella, in the sense that the baby had a very severe type of heart disease and death was more or less expected and was not too far off. was pretty near the time that one would expect him to die, and the same is true, of course, for Estrella.

In addition this baby had not only severe heart disease but also severe congestive heart failure, and had I think good evidence for pre-renal failure, and if one refers back to what

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happened, what had happened to Estrella, not when the baby died but some week or so before (five days I think it was before the baby's death) the baby had high digoxin levels in the blood, as high I think as about -- more than 9.4 was the highest one?

 Ω . Yes.

A.. And then digoxin was discontinued and it came down.

Now if at that particular time the baby had died and one had obtained post mortem samples, the magnitude of the post mortem samples could very well have been similar to what we have here.

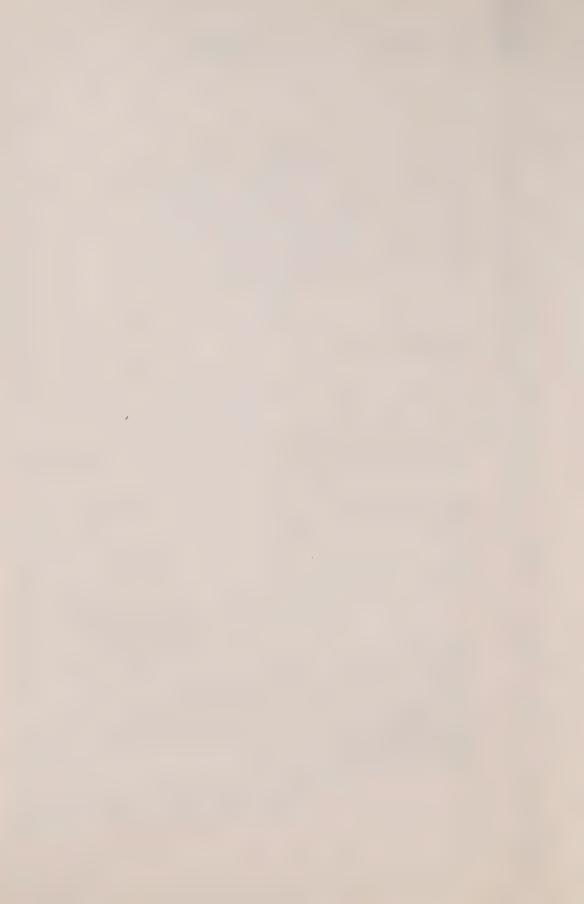
Of course the baby recovered temporarily (Estrella that is) and eventually died and there is an extremely high level, and we don't know what the source of the sample is exactly.

O. Yes.

A. But I think the babies are comparable in the sense that they both have very severe heart disease, severe congestive heart failure, pre-renal failure and a level which is possibly of comparable magnitude except that we don't have a pre mortem level from Baby Murphy.

On the other hand --

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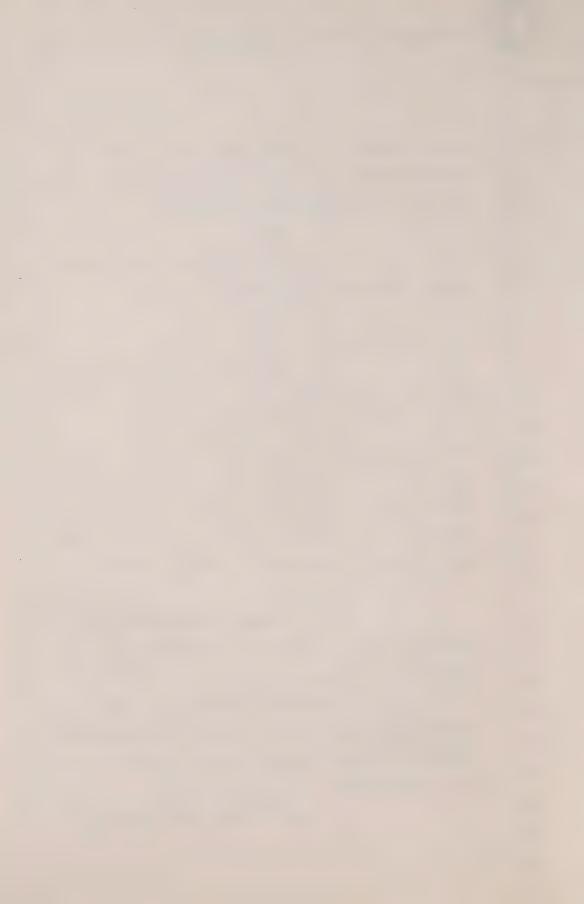
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it, isn't there? We don't have a pre mortem level on Gary Murphy and we don't have at the date you are talking a post mortem level on Estrella?

- A. Yes.
- Q. We are talking about her high levels around the 7th of January?
 - A. Right.
 - Q. Yes.
- A. Now the other thing I think one must do in analyzing these cases and I think I have tried to do it, is look for renal function or evidence of pre-renal failure, and I don't remember that in the series that we looked at with the exception of Baby Estrella there was any baby with really well documented renal failure or even pre-renal that was really clearly documented by laboratory values.
 - O. Yes.
- A. I think these factors have to be ruled out because they can explain the rise in digoxin in the body.

So my interpretation for Baby Murphy is that very likely these findings can be explained on the basis of severe congestive heart failure with pre-renal failure.

We have evidence that his BUN is



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rising and was quite high at some time, BUN being the blood urea nitrogen, and it is not always easy to interpret all the findings.

The serum creatinine was always within a normal range. That means that the kidney itself was probably all right, but the BUN values that I have here on the 28th of March, the 29th of March -then we have the 30th of March and 31st -- they were a little high.

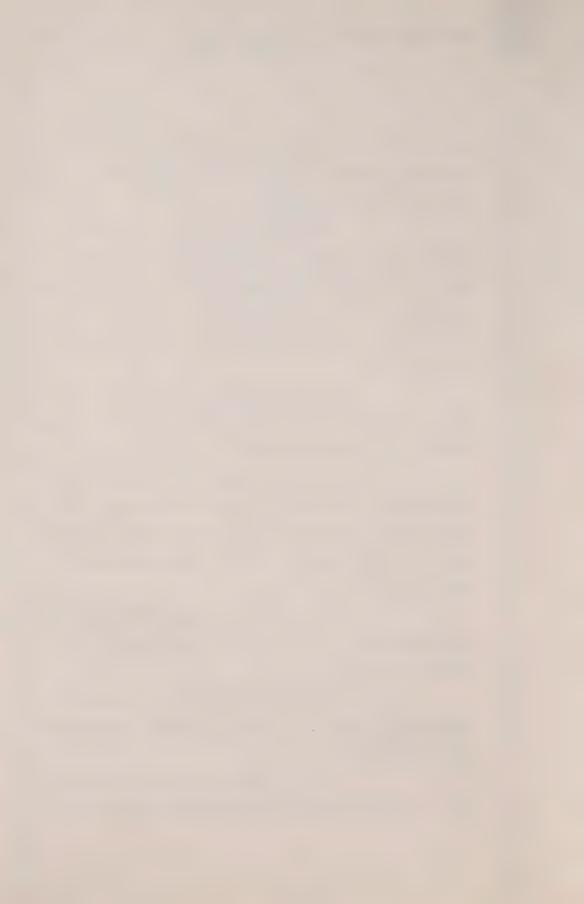
I think the upper level here should be a key, and we have here values of 25, 24, 21, and then we have an 18 and then we have a 15.

One could argue that perhaps it is coming down, but laboratory values fluctuate. There is a trend for them to be a little bit on the high side and this would support I believe the concept of prerenal failure.

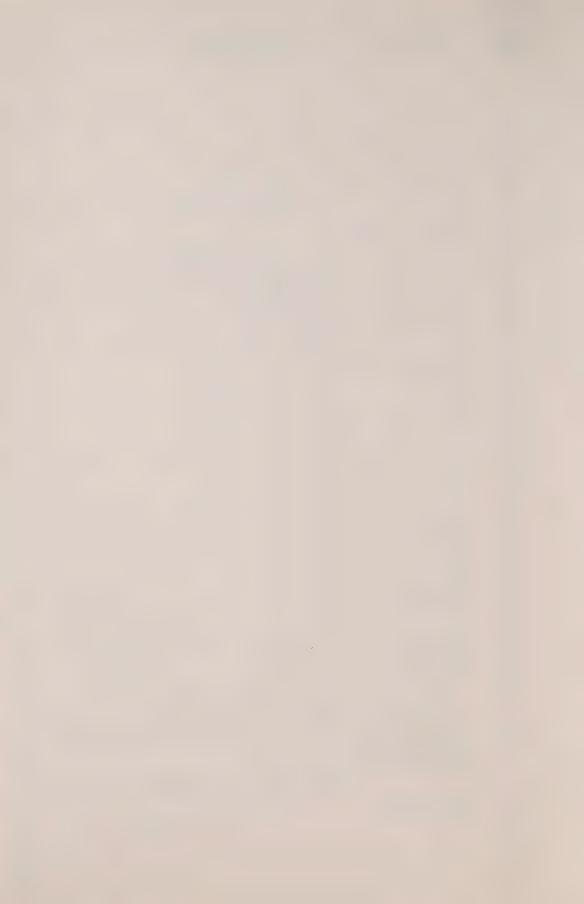
0. Doctor, we are talking about three weeks prior to the child's death are we not at that stage?

A. Oh, I am sorry. I thought he died early in April. No, that is right. Do we have any further --

Q. I take it you would not place great reliance upon BUN measurements, levels at the



1	
2	end of March?
3	A. Oh, no, no.
4	Q. Some three and a half weeks
5	before his death?
6	A. No. I have the dates mixed up.
7	We should go as close as possible to
8	the time of his death, but let's see how far we can go
9	Actually we have here okay, we have
10	April 5, 8, 12 and 21.
	Q. I'm sorry, what page are we looking at?
11	
12	A. This is page 139 of the chart. Q. Yes.
13	A. I think I need some help in
14	translating nanomoles into milligrams. I don't use
15	Q. Are you looking at the bottom
16	line there?
17.	A. Yes.
18	Q. Urea.
19	A. Urea.
20	Q. Is that the same as BUN?
21	A. Yes, but they are expressed in
22	nanomoles.
23	Q. They are expressed in nanomoles
	per litre?
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Α.	Yes.
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- Q. Whatever it is.
- A. I didn't bring my chart.
- Q. Whatever units they are expressed in once again as April progresses they seem generally to be declining?

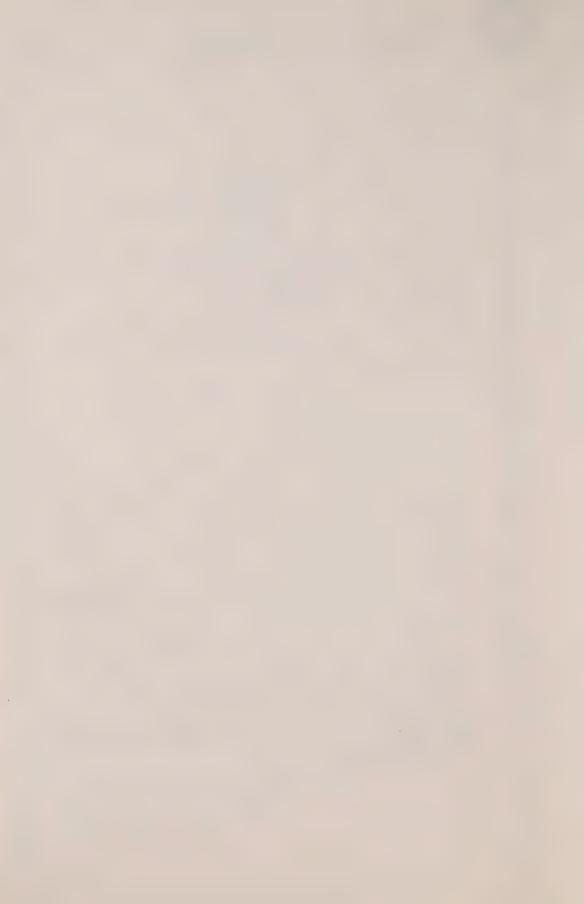
A. That I don't think is so critical. I think it is more important to determine what the actual level ---

- O. What the units mean?
- A. Yes.
- Q. Yes, of course.
- A. Because I -- okay, the value, the normal value for urea nitrogen in nanomoles which I don't use usually -- are in millimoles, 3 to 6.5, so they are within still a reasonable range there.
- Q. As recently before his death as April 21?

A. Yes, there is only one that is really close to his death and that is -- there are a couple of potassium levels which are -- no, this is April 8, which is 5.3, and then on April 12 we have 7.7 that is definitely high.

O. Yes.

A. I don't have an emplanation.





1 2 THE COMMISSIONER: Yes, that is 3 grossly (spelled grossley) hemolized. THE WITNESS: Oh, yes. 4 THE COMMISSIONER: I didn't know 5 computers made mistakes in spelling but they apparently 6 do. THE WITNESS: Okav, if it is 8 hemolized we cannot use it 9 MR. SCOTT: They don't make mistakes. They spell good. 10 THE WITNESS: So the laboratory does 11 not support pre-renal failure at this point, but then 12 the baby died on what, the 24th was it? 13 MR. LAMEK: O. 23rd, April 23rd, 14 St. George's day, Shakespeare's birthday. 23rd I 15 believe, doctor. 16 Perhaps, could we step back for a 17 moment? I take it that on their face the post mortem levels are sufficiently elevated to reasonably 18 strongly suggest there was toxicity? 19 Α. Yes. 20 Q. And in light of what you 21 suggest there was toxicity? 22 A. Yes.

Q. And in light of what you told me

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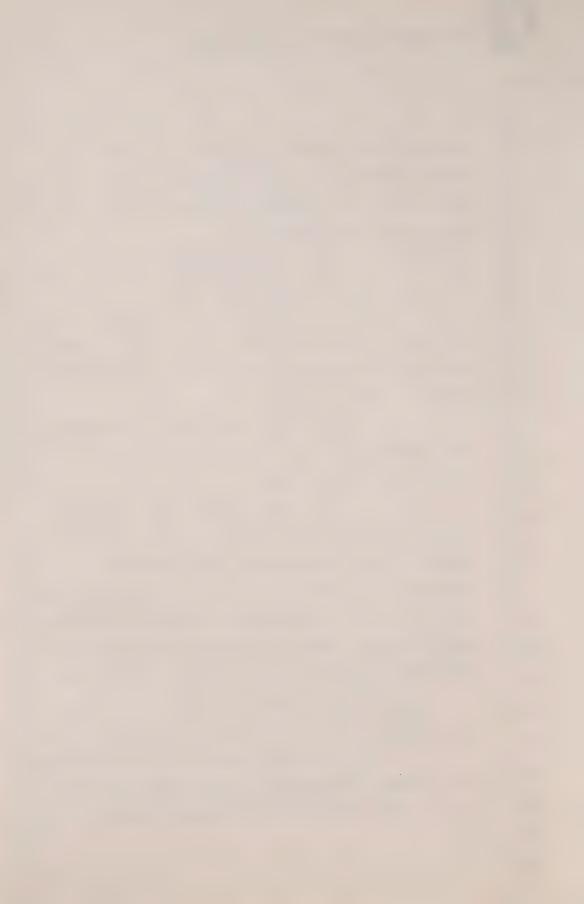


yesterday about Pacsai, or before I get to what you told me about Pacsai, these being post mortem levels what is your best estimate of the ante mortem level immediately before death?

- A. For Gary Murphy?
- Q. For Gary Murphy.
- A. Of course the multiplier could vary from 1 to 3 let's say but if we take an average of about 2, it would be around a little higher than 10.

 Maybe 12. Between 10 and 15.
- Q. The same order as you suggested for Pacsai?
 - A. Yes.
- Q. Yes. And in the light of what you told me yesterday about Pacsai that a level of between 10 and 15 was a level which could be indicative of a lethal level, lethal dose, on the face of it are the levels recorded in Gary Murphy similarly to be viewed as levels which could, unless there be some other explanation, could indicate lethal dose?
 - A. Yes.
 - Q. All right.

Now with respect to Kevin Pacsai you told me that the presence of these levels would lead you to believe that the child had received an



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unprescribed and large -- larger than therapeutic dose -- of digoxin, and that I take it would be one explanation for the Gary Murphy levels?

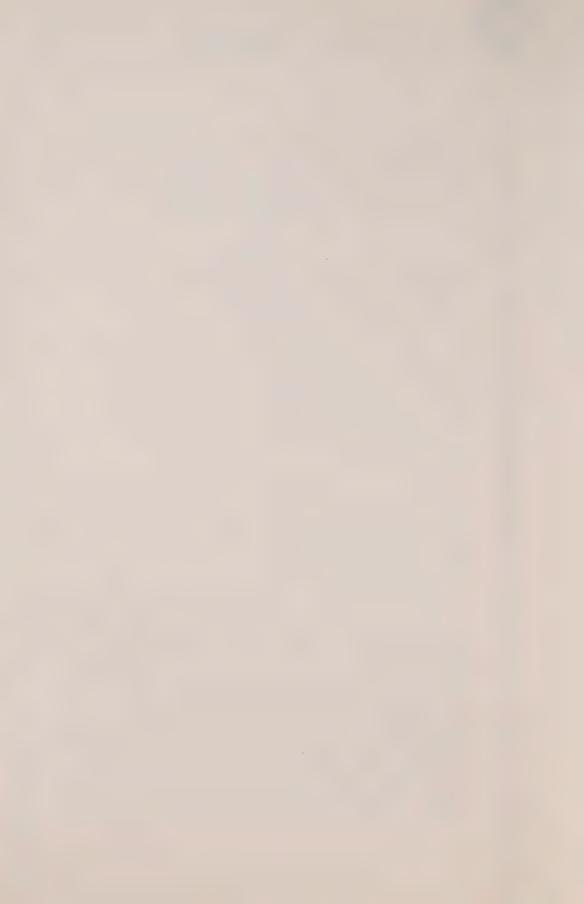
Α.

O. And the question therefore becomes I suppose whether there is some other explanation for the Gary Murphy levels.

Now at the inquest as you said you gave it as your opinion that the child was in prerenal failure, and if that were so then that would explain I take it to your satisfaction the elevated digoxin levels.

Believe me, doctor, I didn't see until just now the dates upon the BUN readings. Was your opinion to pre-renal failure based upon the BUN levels that you referred to a few moments ago?

- No, they don't support it.
- Okay. On what then was your opinion based that this child was in pre-renal failure?
- It was based on the clinical findings, because as I said earlier I would draw a parallel between this baby and Estrella more or less because of the lesion, the severity of the type of lesion and congestive heart failure. I think that would be a fair comparison.



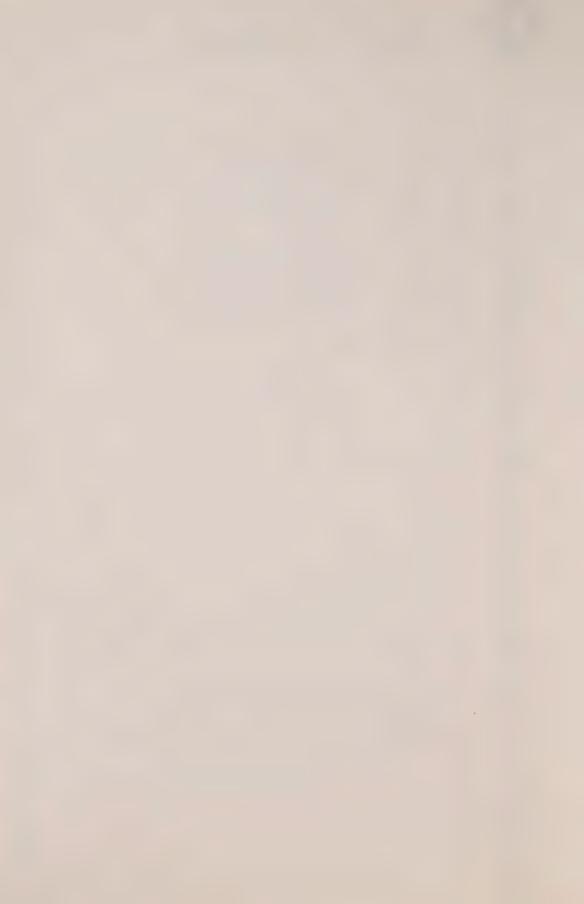


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I would expect a baby who has this type of situation to develop a low cardiac output, poor renal profusion, and eventually retain the metabolites and support pre-renal failure. I can't prove it because we don't have the laboratory to support it except at some earlier stage the baby had it intermittent for a short period and this is the date I was looking at.

> 0. Yes.

Which is not the right date.



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But this is the usual course of events in a situation like this. Perhaps before I proceed I should also draw a parallel between this baby and Baby Pacsai. There are similarities in the levels.

0.

But there are also significant A.

differences.

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0. Right.

Baby Pacsai had a healthy, normal heart. This baby had the most horrible type of congenital anomaly and function that one could conceive of, essentially.

Secondly, Baby Pacsai had pre-mortem levels and the highest level was I think larger than 9.4, or around 10.

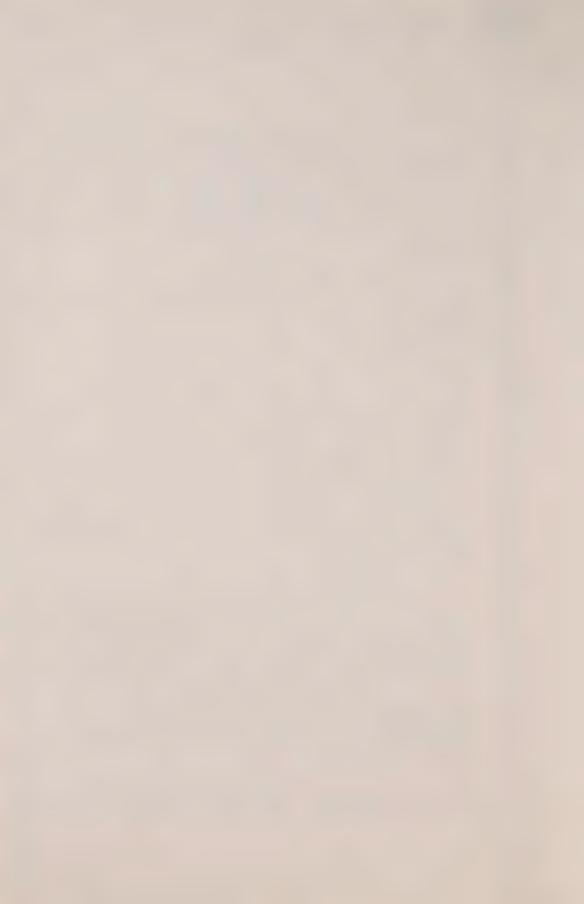
Over 10, yes.

Or higher than 10. This baby did not, although I would expect it to be in the same range -- I forget what the question was now.

Q. Well, you set out to tell me some of the differences between this child and Pacsai.

A. Yes. I think those are the main differences, the fact that Pacsai had a normal

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heart and therefore one would expect him to be more resistant to the effects of digoxin in general. We talked about this baby, but one also would not expect him to develop pre-renal failure which here could be a very significant problem.

Q. All right. But apart from that perhaps greater propensity to develop pre-renal failure in the case of Gary Murphy, the two distinctions that you have suggested, Doctor, don't explain the levels in Gary Murphy, do they?

A. Oh, certainly.

Q. Well, the fact that one has a normal heart and better able to resist toxicity.

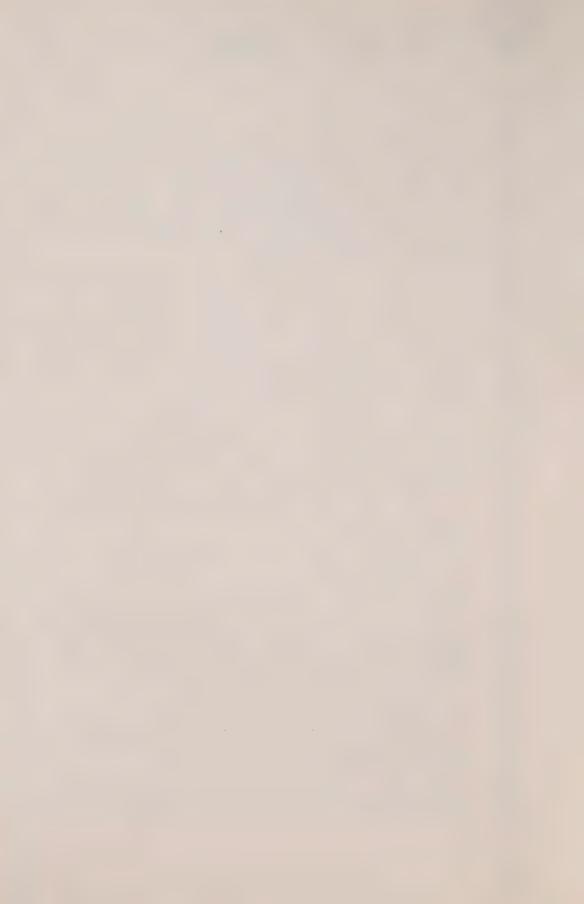
A. No, no, that doesn't explain the

Q. No, it doesn't explain the

A. No, that doesn't explain the level, but the pre-renal failure -- no, the normal heart explains the good renal profusion.

Q. Yes, okay.

A. And therefore the lack of propensity to develop pre-renal failure. On the other hand, I think it is quite conceivable that in Gary Murphy a level of, let's say, between 10 and 15

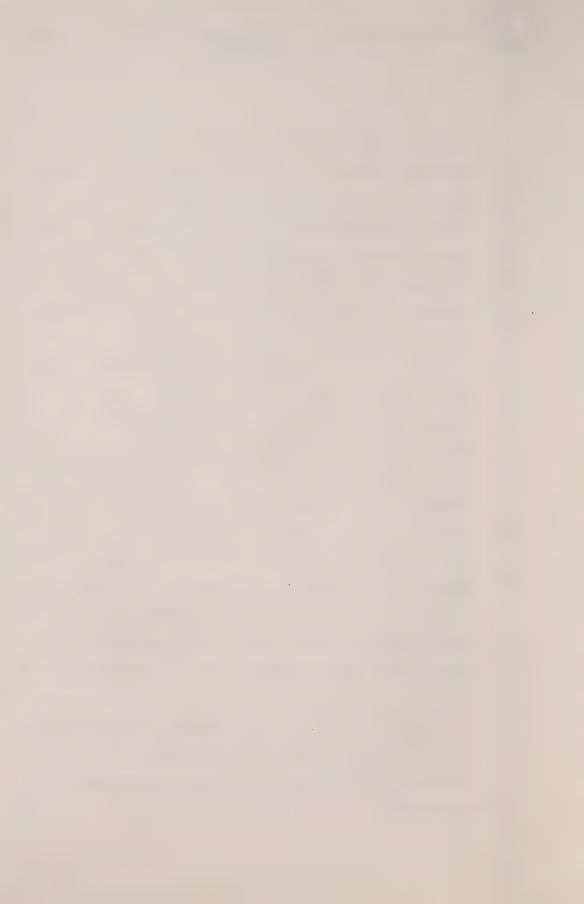


pre-mortem would have been explained on the basis of pre-renal failure. It is not a common event, although high levels are common in pre-renal failure. This level of magnitude may be a little excessive. I have never seen such elevated post-mortem levels. I have seen pre-mortem levels around 10 or perhaps higher, I am sure I have seen them higher than 10 pre-mortem associated with renal failure.

So, that to me would be the best explanation. I should, however, emphasize that I think we are talking about different periods of time and different circumstances. I think when we look at the other children, as I have said earlier, my main concern was not to miss any cases that possibly could have been intoxicated. Here I think we had a situation a year later or so where the hospital was monitoring the children very, very closely. The hospital was aware of the problem and so forth and we were also concerned about, you know, not calling a case toxic when the possibility of nontoxicity existed.

Q. Yes. Doctor, I want to come back to that but could I for the moment come back to this distinction that you drew between this child and Pacsai.

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You are absolutely right, of course, we do not have an ante-mortem level on Gary Murphy as we did on Pacsai, but in light of the post-mortem levels there is every reason to believe, is there not, that had blood been drawn shortly before the child died, it would have shown the same order of concentration as we found in Pacsai?

A. Yes.

Q. And that would still have called for an explanation as to how it got there.

So, the lack of an ante-mortem sample, it is a distinction, but I am not quite sure what flows from it. We still have to explain the presumed ante-mortem level that was almost certainly there, do we not?

A. Yes.

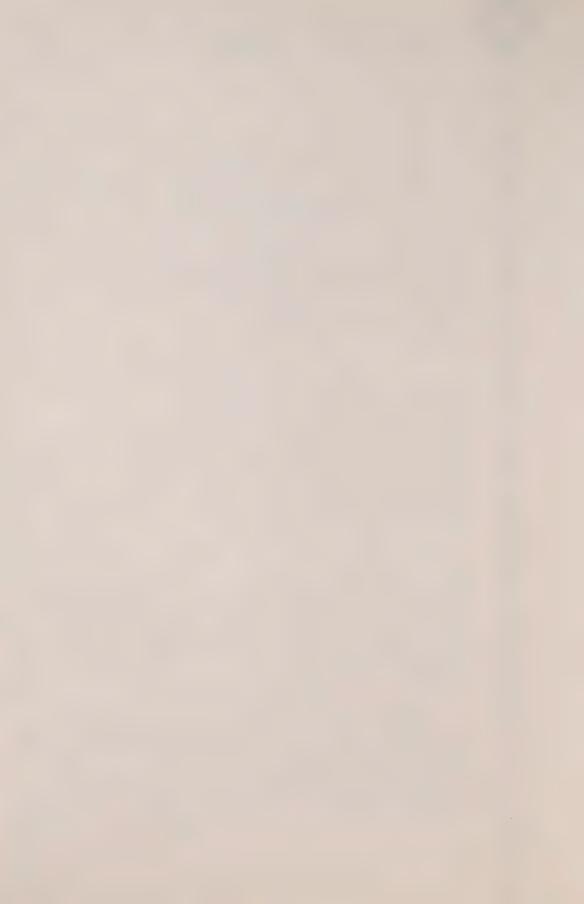
O. Now, in terms of a propensity of a child with poor cardiac output to develop prerenal failure because I suppose almost ex hypothesi the kidneys are probably not being sufficiently profused.

A. Yes.

evidence in the preliminary inquiry when you remember

I read it to you yesterday when you were being asked

about the ante-mortem levels on January 7th in Estrella



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A. Yes.

Q. As I understood your evidence yesterday at the preliminary, as we read it yesterday, it was that the news that that level may have been greater than ten made the diagnosis of pre-renal failure considerably less likely in your mind?

A. I don't remember the exact words. I don't know if I said considerably.

Q. Well, perhaps we should look

A. Perhaps we should review it.

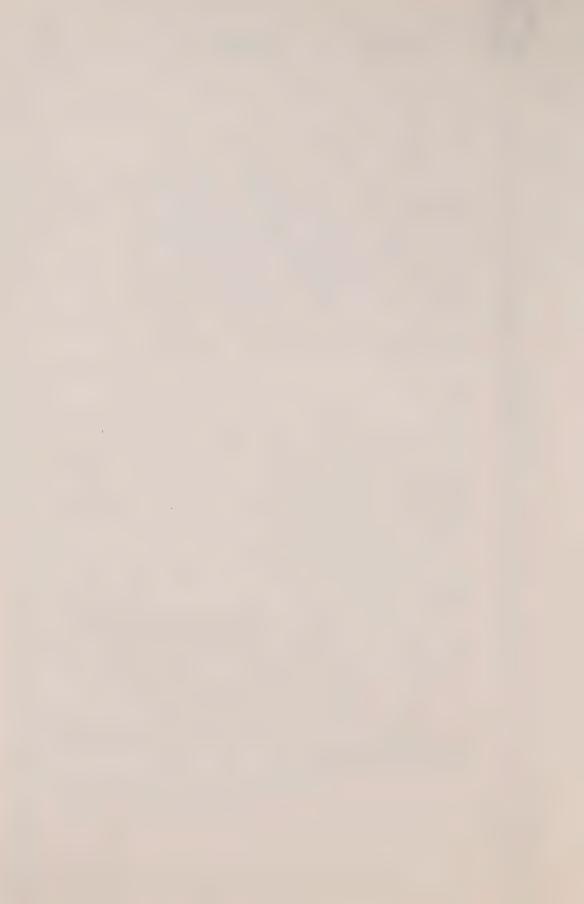
Q. It may be important and it deserves to be looked at and I think rather than paraphrased by me. Now, all I have to do is find it. It shouldn't take me too long.

Yes, Page 37 of Volume 34. The question was:

"Are you going to stick with your original indication that these levels in Janice Estrella during January 7, 8 and 9 were probably due to pre-renal failure on the part of that child?"

And your answer was:

"A. I would still say that the



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possibility of an overdose of digoxin exists, but I cannot be sure about it. I think the levels of higher than 10 would make me very suspicious. It would be unusual, very unlikely to find a level higher than 10 in pre-renal failure."

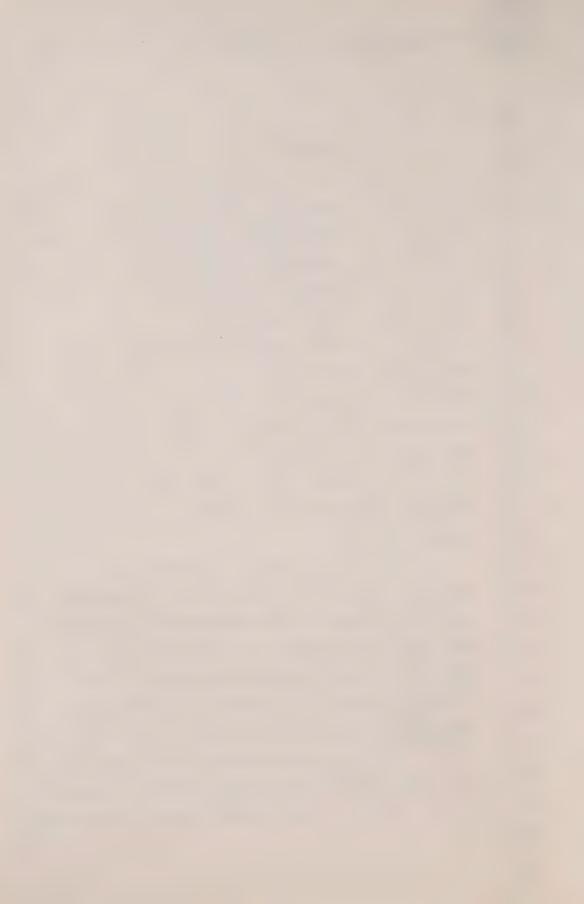
Now, that was your evidence at the preliminary inquiry. Have you any cause to change that view as a general statement as to the likelihood of pre-renal failure producing a concentration greater than 10?

A. No, I don't think I have any reason to change that. It is quite unusual but it can happen.

Q. Now, I recognize, Dr.

Hastreiter, what you are thinking about this child, that the condition of Gary Murphy's heart would have made adequate profusion of the kidneys and every other organ of his body relatively unlikely and it is poor profusion of the kidneys that essentially is responsible for pre-renal failure.

Your suggestion, as I understand it, therefore, is that because there would be a propensity for this child to have pre-renal failure, that may well



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be the explanation for the presumed ante-mortem levels which existed in him of digoxin.

- A. At post mortem.
- Q. Well, I am presuming it would be ante-mortem.
 - A. Oh, yes, fine.
 - Q. If I understand your position

A. Yes. I should perhaps say that children who have a situation like this will not uncommonly develop intermittant high levels.

Q. Yes.

A. Levels consistent with prerenal failure, also high digoxin levels and then come
down, go up again. So, it fluctuates to some degree.
The fact, obviously, it would have been a much
stronger case for me to have laboratory support for
this evidence of pre-renal failure. I am the first
to agree that we don't have that here.

Q. Sure. But fairly, Doctor, you do have laboratory data which seem to indicate that on a prior occasion.

- A. On a prior occasion, yes.
- Q. There had been such an episode.

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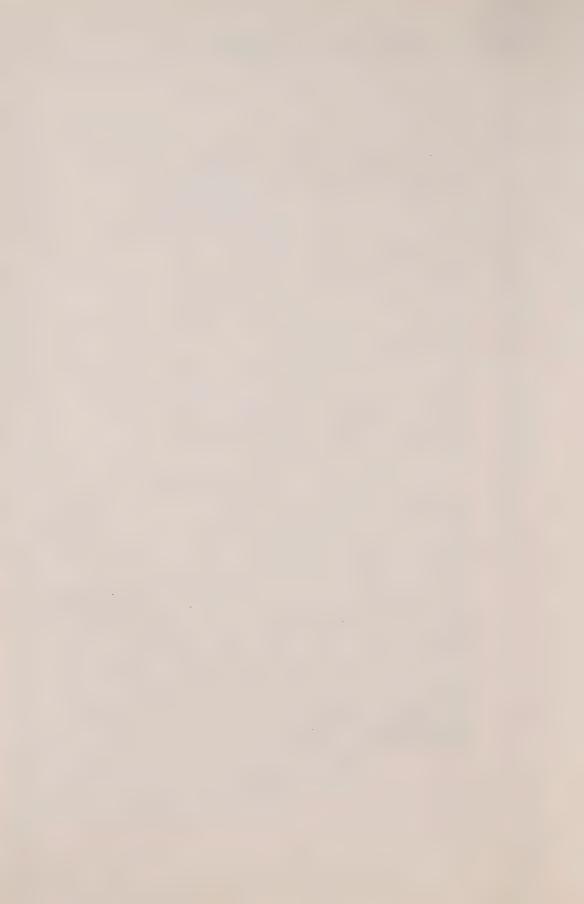
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A. Right.

Q. And although in a sense it is speculation I take it your position is that there having been laboratory evidence of what you would describe as pre-renal failure on an earlier occasion given the general condition of this child it is entirely plausible the condition would recur.

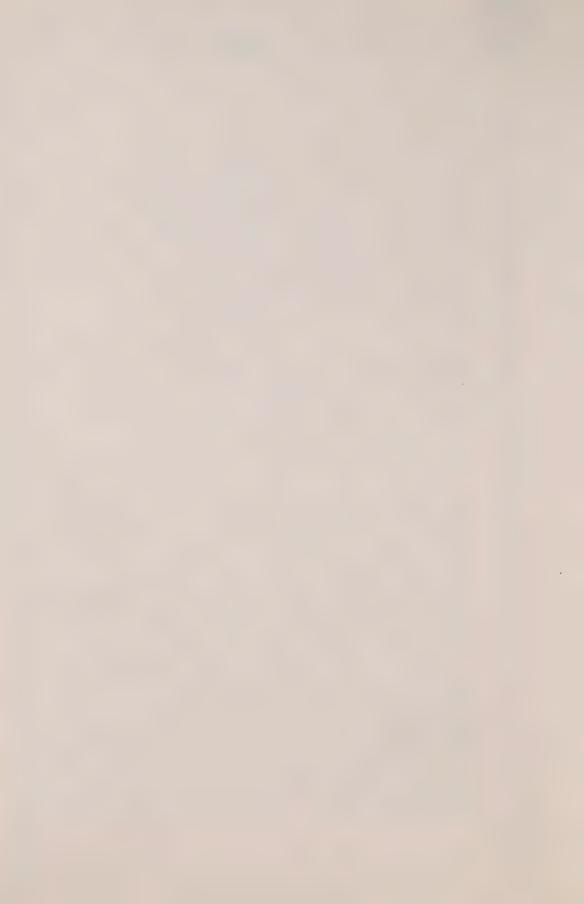
A. Yes. However, I would like to emphasize again that I had never seen a level of this magnitude in post mortem blood in a child who was receiving therapeutic digoxin.

 Ω . Yes.

A. Very clearly, I want to make it very clear. In fact, if you look at my own figures and our publications you will see that the highest level we have found in post mortem blood were 14 and these were usually newborn, premature babies, actually, who had the highest level.

Q. Yes.

A. And I think the highest in a non-premature baby was around 12. So, a level of 25 or 24 and there is even one of 32 is extremely unusual. However, you know, I think it is still within the realm of possibility. If you take a multiplier of let's say the usual 2 that we have been using or, if we



want to stretch it a little, if we took a multiplier of 3, then the level would be lower. Even if we don't stretch it, a level of 10 pre-mortem, 10 or even 12, does occur very rarely with pre-renal failure.

Q. Yes.

A. So, I don't think it can be ruled out; whether it is the most likely possibility I think can be argued.

Q. In your judgment what is the most likely explanation?

Λ. I think considering the whole picture of this child ---

MR. SCOTT: I'm sorry, I don't understand the question. Is my friend asking most likely now or most likely when he voted at the September meeting?

MR. LAMEK: No, he didn't vote on Gary Murphy at the September meeting.

THE WITNESS: No.

MR. SCOTT: No, but if he did vote.

MR. LAMEK: Oh, no. May I ask now?

Let me start with now, today, Dr. Hastreiter, what in your best judgment is the most probable explanation for the elevated digoxin levels in Gary Murphy?



	Α.	I think	in the	whole	picture
it would	still be one	of pre-re	nal fail	ure.	Of course
if there	was any possi	bility of	further	inves	tigation,
toxicolo	gy, I would ce	rtainly re	ecommend	it, I	would
advise i	t.				

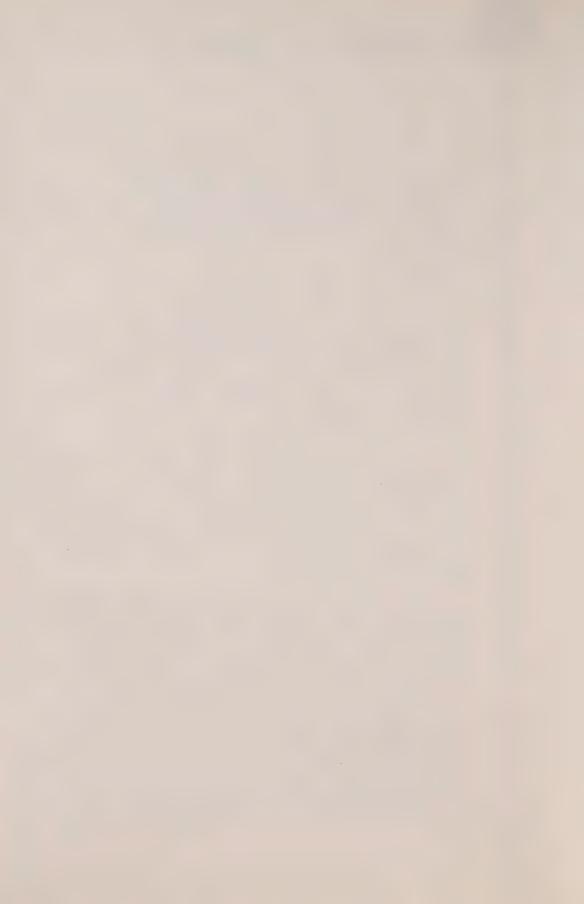
Q. Of course.

A. And I think we should have as complete an investigation as possible. But since there was nothing else, I don't think, available to pursue it, my feeling would be that pre-renal failure is probably the best explanation.

Q. Okay. Now, I am not suggesting that some of the questions I have been asking you in the last few minutes have been particularly easy, but let's go back to the ones that you and I both label as difficult.

It may not be possible for you to put yourself into the 1981/1982 context with this case and, if it isn't you must tell me. How would you have classified this death in 1981.or 1982.

A. Yes, I think it is very difficult to go back and situate one's self in that
climate, that position of pressures and so forth, but
I am quite certain that if I could transfer myself
back into that period I would probably have classified



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Q. Dr. Hastreiter, Dr. Kauffman who has given evidence here also gave evidence at the inquest of Gary Murphy and I believe you heard his evidence.

A. Yes.

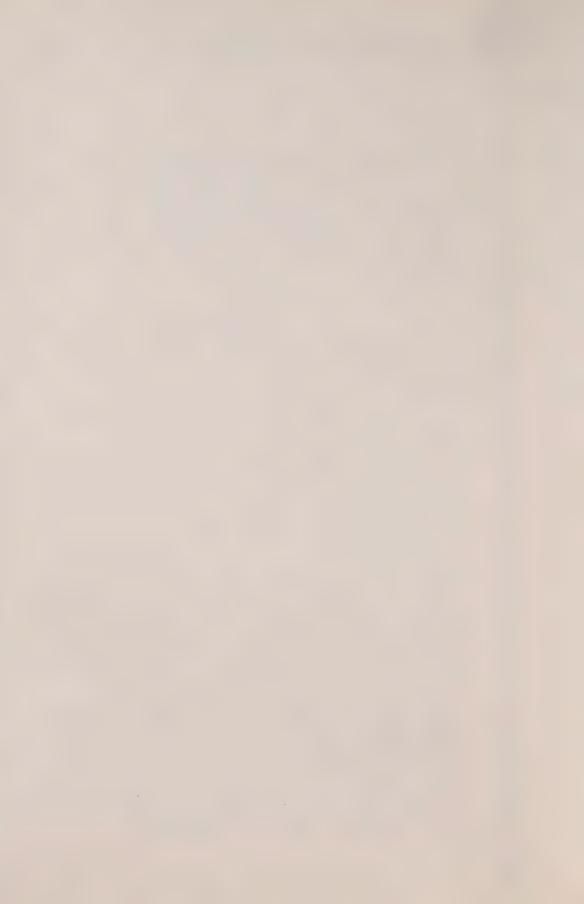
Q. In fact, that evidence which I am interested in is found at Pages 39 and 40 of the transcript.

A. I didn't hear his evidence,

Q. You read it or you heard about

A. Yes, I did.

take it that he expressed the opinion that the most likely explanation in his judgment for the clevated digoxin levels in Gary Murphy was that as the baby's condition gradually worsened with continuing and progressive damage to the heart muscle, increasing oxygen shortage, reducing cardiac output, lessening profusion of tissues, there was progressive tissue damage and a progressive weakening of digoxin binding in the tissues causing a progressive release of digoxin which eventually wound up in the serum.



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Kauffman's	best	judgment	as	to	the	cause	of	the	
elevated	digoxi	ns?							

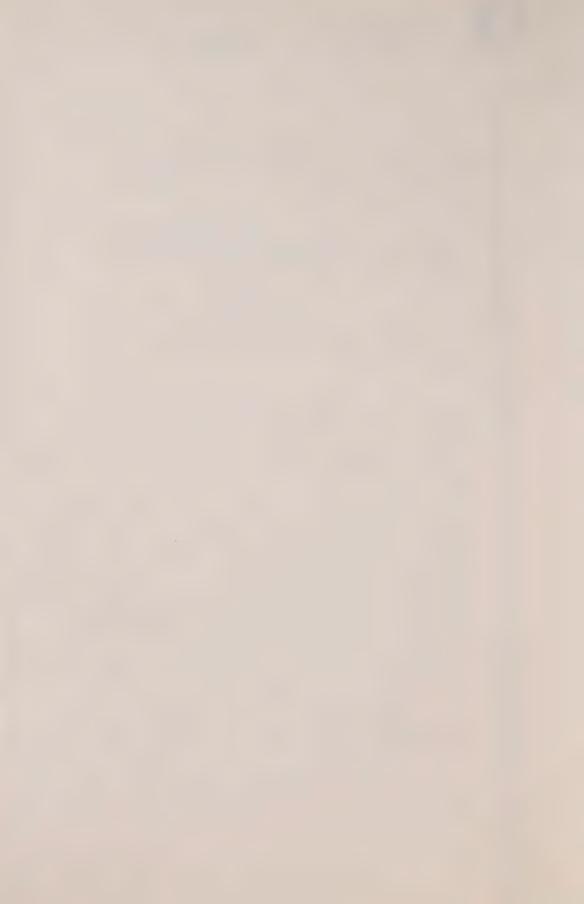
A. Yes. It is my understanding that Dr.Kauffman proposed several explanations.

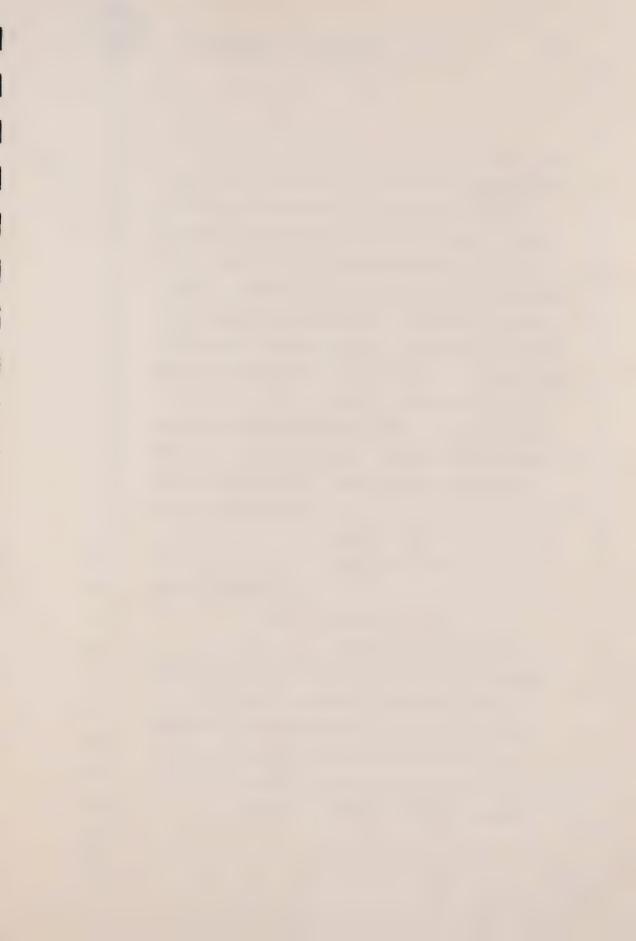
Q. Yes.

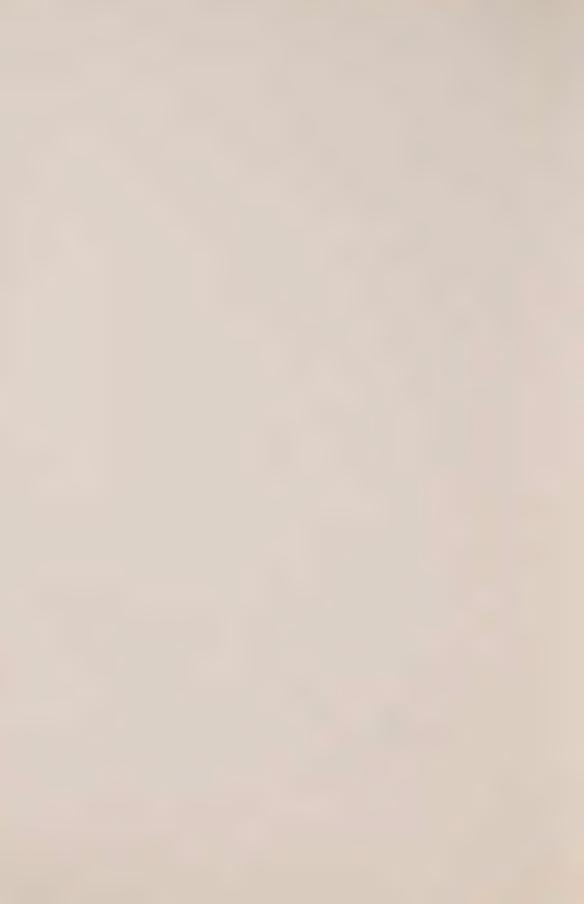
A. I think there were five or six and this was the last one and his favorite one.

Q. Yes. Now, do you have a view upon the likelihood of that being a, well, do you regard it as an acceptable explanation of the elevated digoxin levels?

A. Well, as you know, I have great respect for Dr. Kauffman, I really like him, I think he is a very good pharmacologist. I don't quite agree with him here because I think it is very hard to prove what he is saying and this is my disagreement.









EE DM/cr

It is a good theoretical speculation, but I think in practice it would be very difficult for him to prove that. My hypothesis of renal failure has not been proven by any means either, but at least it is a practical every day situation that we encounter. I am not sure at all that what Dr. Kauffman said occurred. It occurs in theory but whether it occurs to the point where you would see elevated levels of this magnitude, nobody knows.

Q. Let me understand you, in comparing your two views of the thing, you are telling me that although in theory what Dr. Kauffman is positing may well occur, there is no evidence that it does occur?

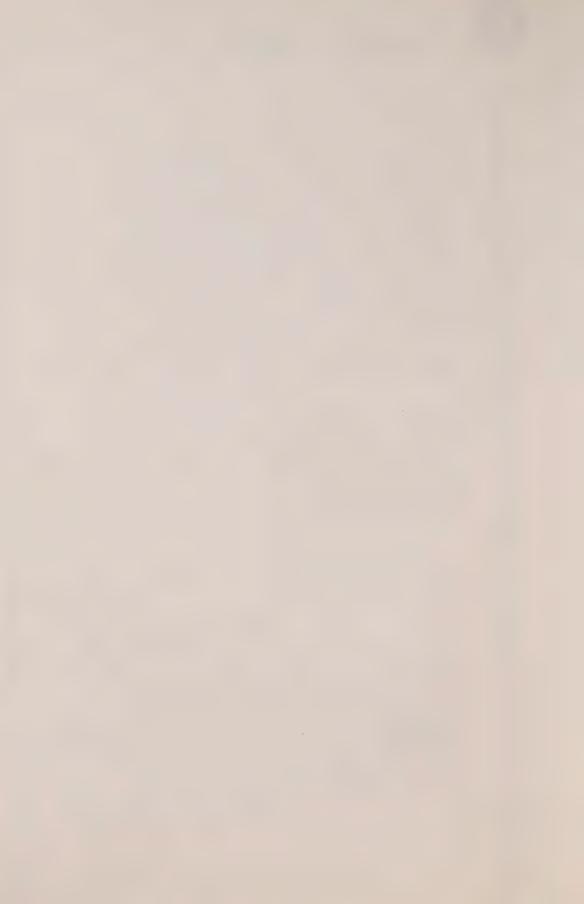
A. Right.

 \mathbb{Q}_{\bullet} Let alone whether it did occur in this case.

A. Right.

Q . And your position on the other hand of pre renal failure, it is certainly well known that pre renal failure may cause an elevation in serum digoxin, what is not known is whether it actually did in this case although there is evidence to suggest it may have.

A. It may cause an elevation



Hastreiter, dr.ex. (Lamek)

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of digoxin in blood of this magnitude.

Q. I suppose there is necessarily therefore an element of uncertainty, and to a degree mystery about the Gary Murphy death?

A. Definitely.

Q. When we speak of Murphy and Pacsai, or Murphy and Estrella, or any of those people, I am obliged to follow up something you said a moment ago, Dr. Hastreiter, because I think it goes to the way in which we must approach all of the expert evidence that we have heard.

You referred to a couple of points of distinction between Gary Murphy and Kevin Pacsai. Is it also an important point of distinction between the two that when Kevin Pacsai died, and especially when his chart was reviewed, the atmosphere was one of great suspicion. Your task you very forthrightly said was to look for any possible suggestion of digoxin intoxication in those charts. We were looking for an explanation and an apparent epidemic and there had been murder charges already laid.

When Gary Murphy died, when his case was reviewed and the Inquest was held, although there was obviously enormous concern and apprehension,



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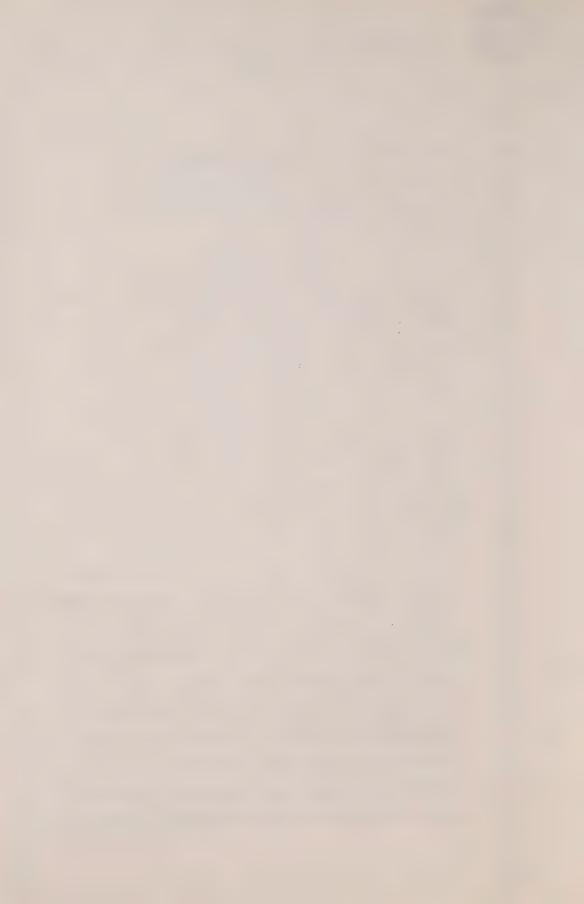
the climate if I may say so appeared to be to dispel suspicion if it were possible to do it, to explain matters that might otherwise be suggestive of an overdose.

Believe me, Doctor, I don't want to be offensive, I am not suggesting any conscious lack of objectivity on your part or on anyone else's part, but can we be sure that the climate may not have influenced judgment in marginal cases?

A. No, I don't think we can.

I think we had great pressures placed upon us in
Gary Murphy's situation, where there was a great
deal of, as you say, apprehension, not only local
but also public apprehension and it was a very
difficult decision to make.

Q. Of course, I am not suggesting for a moment, Dr. Hastreiter, let me be plain, I am not suggesting for a moment that your conclusions about the death of Gary Murphy are wrong, I don't suggest that. But in light of the Gary Murphy case, do we all, and with respect I include you, do we all not need to regard the expressions of suspicion about many of the babies whose deaths we have been discussing in the last couple of days as perhaps unconsciously influenced





Hastreiter, dr.ex. (Lamek)

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to some degree by the then prevailing climate and the viewpoint from which you were asked to approach those cases?

A. I believe so. I would perhaps though emphasize that there were cases in which toxicology was available.

- Q. Of course, yes.
- A. And these cases I would exclude from your remarks.
 - Q. Yes, I understand that.
- A. For the other cases in which there was just clinical information available I think that is a significant factor.
- Q. It is fair to say, is it not, that many of the children whose deaths you regard as suspicious at one level or another, were in many respects far poorer candidates for suspected digoxin overdose than Gary Murphy was.
- A. My understanding, my function at that particular time was one of trying to screen the cases, so that further investigations could be performed, hopefully toxicology also, and in fact some bodies were exhumed and in some other cases we found specimens that could be used for this purpose. So we were trying to select the cases in whom this, you know, should be pursued.



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Q. Doctor, I hope I have made it clear I am not in the slightest critical of what was done.

- A. No.
- Q. I assure you of that.
- A. Yes.

Q. I guess the thing upon which I invite your agreement is this; that the lesson of Gary Murphy is that we have to be cautious in looking at any particular case from the epidemic period where there is not clear toxicological evidence, lest we too easily be suspicious on insufficient grounds, is that fair, would you agree with that?

A. Could you repeat that, please?

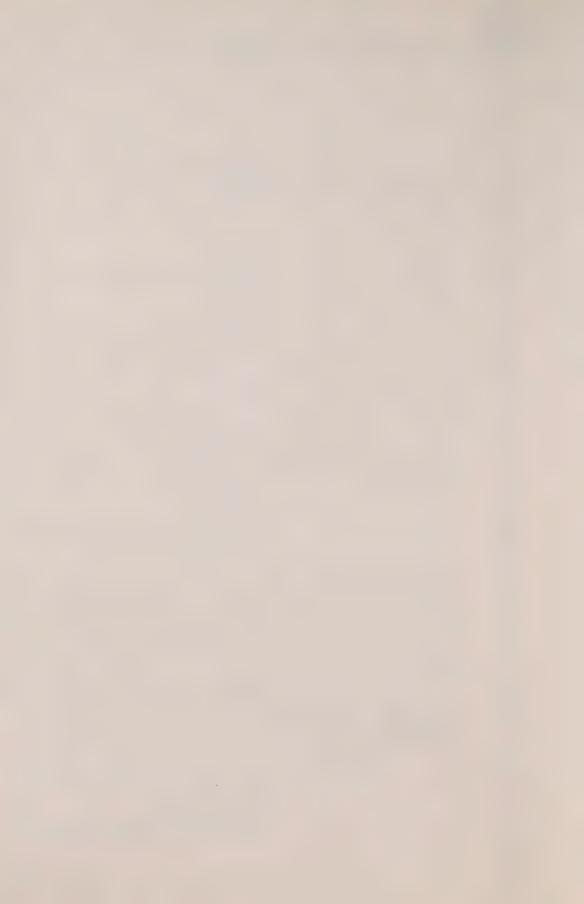
Q. Yes, we have got to be cautious in looking at any particular case where there is no clear toxicological evidence, cautious lest we be too easily suspicious on insufficient grounds?

A. I think that is a correct observation.

Q. Doctor, I am very grateful

to you and I think we have timed one of those endings magnificiently again.

- A. May I make one more remark?
- Q. Of course, yes.
- A. I think it is very important



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to place everything in the context not only of time and period --

> Q. Yes.

But also of the, let's say clinical and toxicological findings.

Subsequent to these deaths that occurred on Wards 4A/B, a lot of research has been done, a lot of studies, local studies as well as other places, have been done. One of them consisted of obtaining post mortem bloods on every baby that died, as you very well know.

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At the hospital. Α.

Q. Yes.

Α. And I was given I think the figures on - I forget the exact number, 267 I think, babies that had died subsequently. If you look at these figures you will find that there were only two out of 267 where the levels were higher than 10 post mortem, and one was 13.5 and this was gutter blood I believe, and then there was 1 of 12 point something that was heart blood.

So when you then appear with a level of 20 or 30, or even higher, such as 70 or 100 like we have encountered, it is obviously totally out of



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that picture.

for it.

Now, I must admit though that in the case of Gary Murphy still remains a mystery in my mind, I don't have a complete and clear explanation

Q. You have given as your best judgment of the thing, Doctor, thank you very much.

A. Yes.

THE COMMISSIONER: We will take 15 minutes.

MR. LAMEK: Thank you, sir.

---Short recess.

---Upon resuming.

THE COMMISSIONER: Yes, Mr. Hunt?

MR. HUNT: Thank you, Mr. Commissioner.

EXAMINATION BY MR. HUNT:

Q. Dr. Hastreitier, my name is
Hunt and I represent the Attorney General, Crown
Attorneys and the Coroners and we have not met before.

A. No.

Q. I'm very pleased to meet you.

A. Thank you.

THE COMMISSIONER: You should be

friendly.

MR. HUNT: You probably thought you

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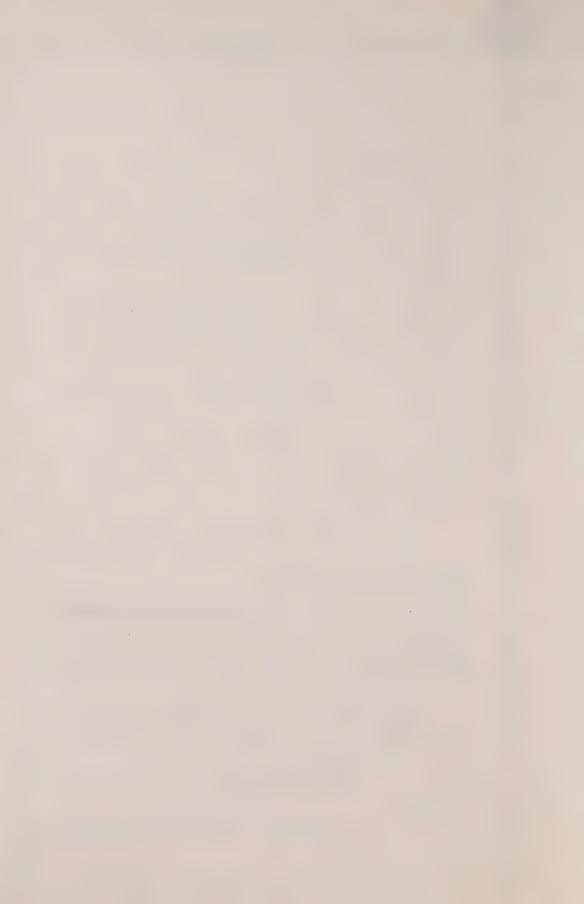
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didn't have a friend in the room.

MR. SCOTT: Don't be too sure you are pleased to meet him.

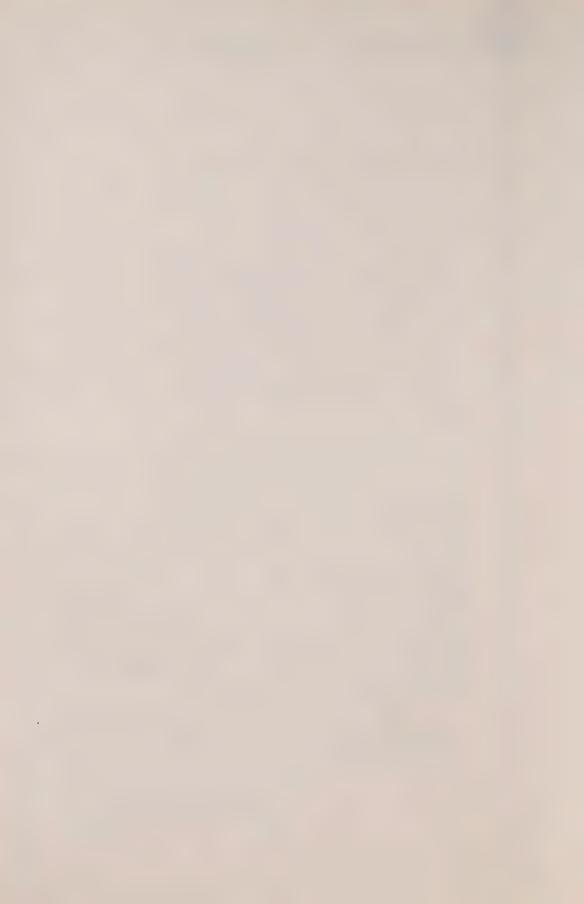
MR. HUNT: Q. Doctor, I first want to deal with some of your background in the area of digoxin, because unlike all of us in this room, and unlike most of the doctors that we have heard from your interest in research in the pharmacokinetics of digoxin didn't start with this particular case, did it?

A. No.

Q. In looking through your curriculum vitae, I noticed that you have under the heading of "Presentations" some nine that relate directly to digoxin. Under "Abstracts" you have seven abstracts published relating to your work in the area of digoxin and the pharmacokinetics of it. Under the heading of "Publications" you have some six that deal with digoxin. On my reading of it this goes back to 1971 or earlier?

A. Yes. I think the curriculum that you have is a little old, because it should be more.

- O. It should be more than --
- A. Yes.



	Ω	•	Wor	uld	it	be	fair	fo	rr	ne	to
suggest	that you	were	one	of	the	pi	onee	rs	in	th	е
area of	research	into	pha:	rmac	coki	net	ics	of	die	jox	in
as it re	elated to	infa	nt?								

A. Oh, as it relates to infants and children probably. You see the methodology for analysis of blood levels of digoxin was developed around the time when I started. Before then it was very difficult, there was no real good method available. It was in 1970 or so that the method was developed, and in 1971 the papers dealing with clinical studies on digoxin started appearing, and our group was one of the first to study it in children and babies.

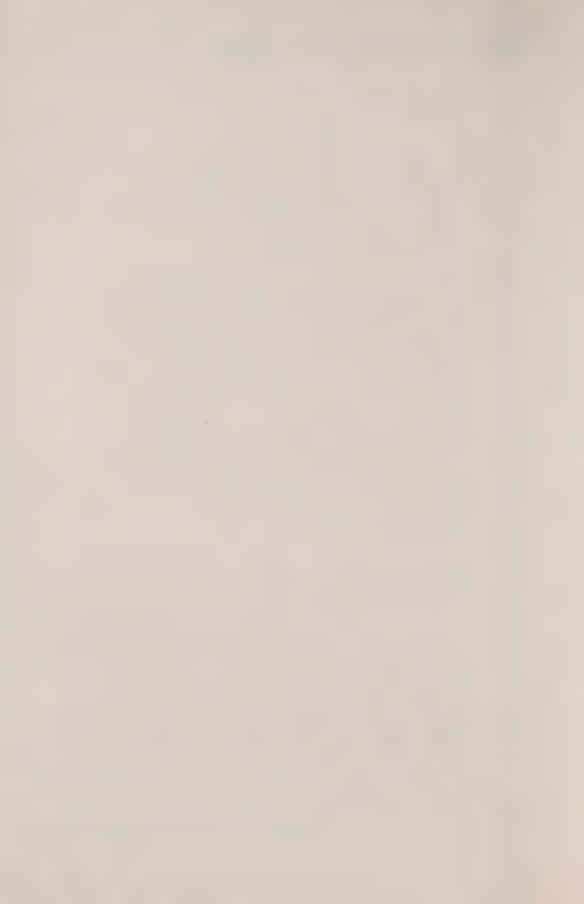
Q. Can I ask you, sir, how it was that you came to be interested in this particular area of scientific research?

A. There were several reasons.

I think one of the main reasons was that the pharmacologists at our institution had themselves develop a radioimmunoassay for digoxin RIA method.

So they were producing their own antibodies, and in this way we were able to very early in the game make these measurements.

A young man by the name of Krasula who



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is listed in several of these papers was doing his

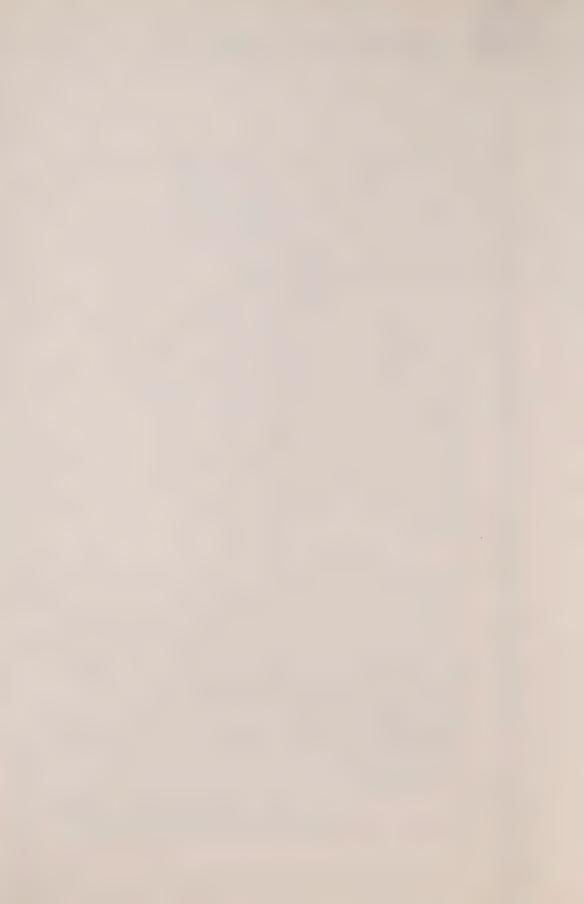
Doctorate in Pharmacology, his Ph.D., and
his Thesis was, his whole work was primarily
digoxin and I happened to work with him. He asked
me to colloborate with him.

Then Dr. Soyka who is a pharmacologist, also was well known in the field, he was in our institution and he was Dr. Krasula's tutor, so he was his teacher. There were several people who happened to be interested in this particular drug at that particular time. For me it was interesting because it was a very important drug in my field and I thought it was an interesting type of research to do.

 Ω . Now has that particular group that started in this area of research in 1970 continued to work together through the last decade?

A. No. We worked together perhaps for five years or so, then Dr. Krasula finished his studies and he moved on to become, into the pharmaceutical industry. He is now, he has a good position in one of the Chicago pharmaceutical laboratories.

Dr. Soyka also moved away, he became
Chairman of the Department of Pediatrics at the

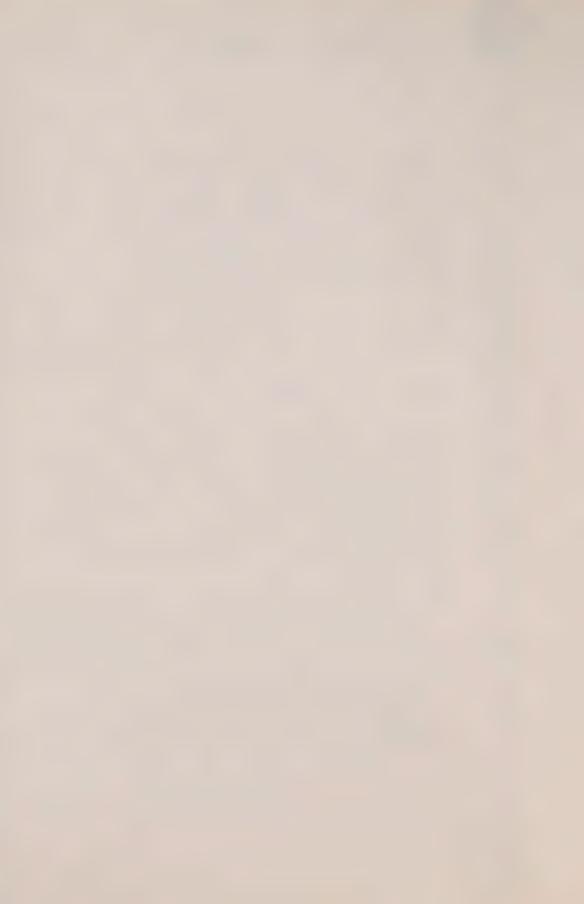


University of Vermont and then Chairman of the Department of Pharmacology, and then he eventually I think moved to Mead Johnson Industries, the baby food industry and he is now a member of their staff. So the same group is not together any more.

Q. But you have continued your research either alone or with other doctors since?

A. Yes, with other pharmacologists and clinicians, biochemists and so forth.

o. Well, without wishing to embarrass you, sir, could I ask you whether in March of 1981 was there any individual or perhaps any group of individuals other than yourself who had greater experience in the research into the pharmacokinetics of digoxin as it related to infants?



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Oh, I am sure there must be. There is a Swedish physician by the name of Wettrell who is quite well known in the field.

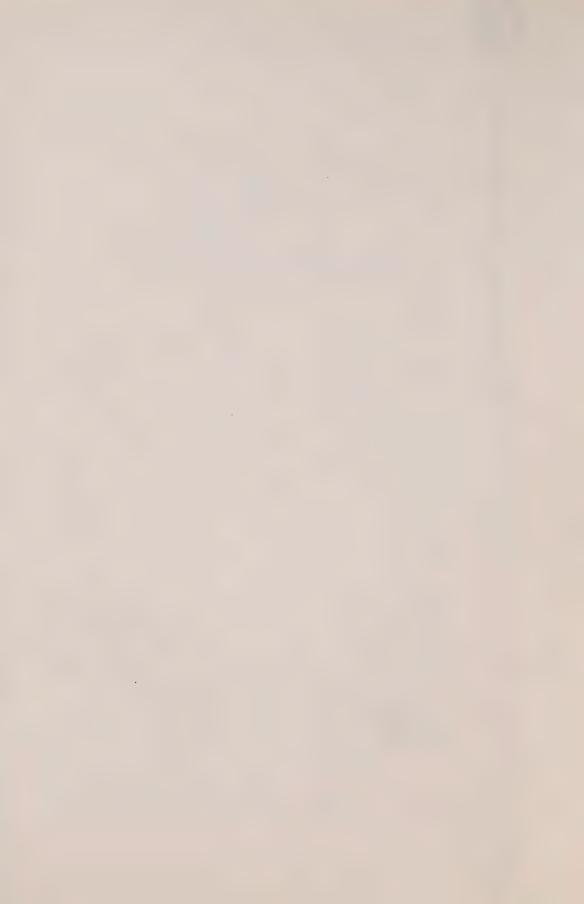
So far as North America is concerned are you aware of anyone else who has your experience in dealing with this particular area?

I think this is a very difficult question to answer. I am sure there are others who have done work, but I haven't really, you know, counted... There are several who have done different types of work with digoxin. Some of them have been clinical; others have been more laboratory; and others have been electrophysiological, so I don't know if there is anybody has done more or less. That I find a little difficult to answer.

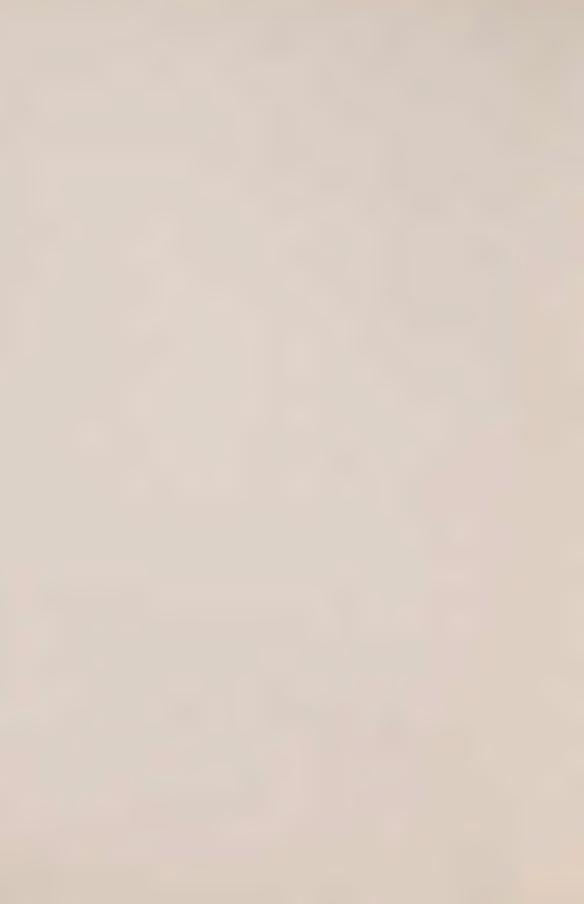
But could I put it to you this way, sir: I take it it didn't necessarily come as a great surprise to you to be approached by the Crown Attorney seeking advice with respect to digoxin intoxication in infants given your experience and research in the area?

> A. That is true.

Now, you indicated to my friend, Mr. Lamek, on Monday that you were asked



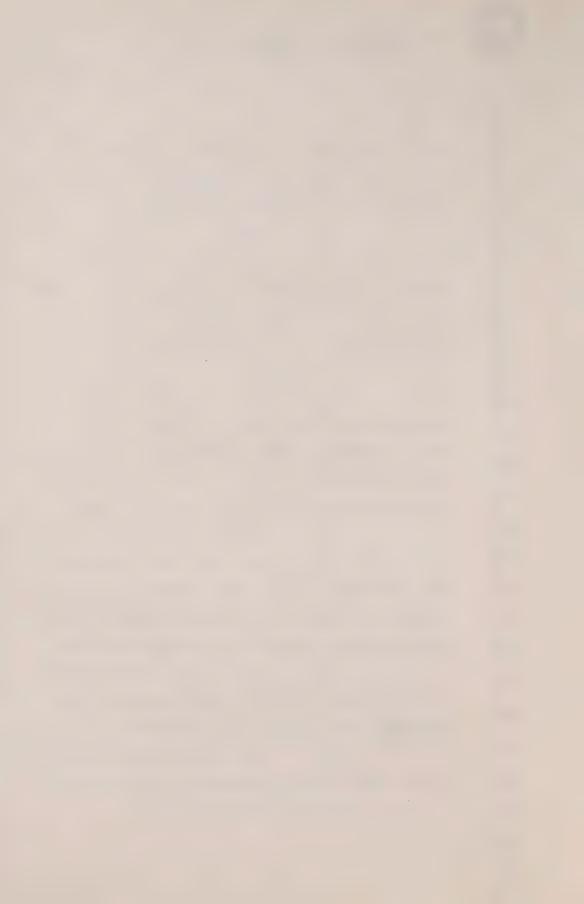




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by the Crown	Attorney to	conduct a rev	iew of	the
cases from a	medical and	toxicological	point	of view.
This is init	ially when yo	ou were approa	ched.	

- A. Right.
- Q. And I take it that you certainly felt that that was an appropriate request to be made of you having regard to your experience and expertise in this particular area?
 - A. Yes, I thought so.
- Q. And you indicate as well that you were asked specifically in cases where there was toxicological data available to form and express any opinions about the size of dose, the method of administration and the time of administration?
 - A. Right.
- Q. And again, sir, I suggest that certainly you felt that this was also an appropriate request of you having regard to your experience and research in this particular area?
- A. Yes. I think that this was a very difficult problem, especially to try and determine the time and dose and support ---
- Q. I am not suggesting it was an easy task that was being asked of you or that it would necessarily be easy for you ---



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Q. - but having regard to your experience it was not inappropriate as far as you were concerned?

A. No.

Q. To ask you to attempt to

do it?

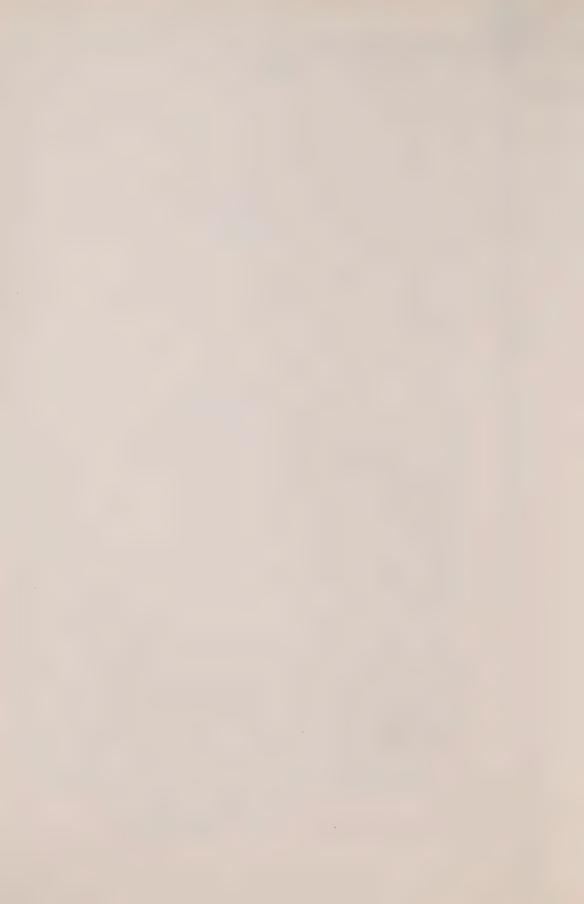
A. No.

Q. I suppose the reason that
I ask you that, sir, is because we have heard from
a number of doctors here, many of them cardiologists
at the Hospital for Sick Children, who have
indicated that they did not feel that it was
appropriate for them to express opinions on such
things as size of dose, the method of administration,
time of administration, inasmuch as they weren't
pharmacologists.

Now in fairness, none of them had the experience that you have had in terms of research into the pharmacokinetics of digoxin, but that leads me to ask you, sir, for your purposes in conducting this review

I take it you didn't feel it necessary to have with you a pharmacologist?

A. I had always worked with pharmacologists, and I did not directly have



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pharmacologists with me, but I have consulted with my friends who are pharmacologists quite frequently, and when I had any questions I would consult them.

Q. But you didn't feel it necessary to have someone working with you on a retainer basis, something of that nature, in terms of doing your review?

A. I didn't - well, see, I of course was not aware of what the budget was and what the capabilities of the Crown and the Police were at the time. I certainly welcomed the addition of Dr. Kauffman and the others later on who were invited to join, but ---

Q. I think, sir, in fairness you in the summer of 1982 agreed with the choice of Dr. Kauffman, and you even took some steps to assist in trying to find ---

A. Exactly.

Q. - an appropriate pharmacologist at that point in time?

A. That is right.

Q. But what I am really suggesting, sir, is up to the point in time of the end of the preliminary hearing you did not feel the need to have a pharmacologist working with you and



taken to

you suggested

TORONTO ONTARIO Hastreiter, ex. (Hunt)

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2	assisting you on a regular basis?
3	A. I was never really asked.
4	I never suggested or perhaps I may have - we may
5	have discussed this possibility, but I don't
6	remember ever having asked or suggesting that a
	pharmacologist be added to the team.
7	Q. So prior to the summer of
8	1982 after the preliminary hearing was over, you
9	don't recall suggesting that steps be taken to
10	locate and retain a pharmacologist?
11	A. Oh, after the preliminary
12	hearing?
13	Q. No, I am suggesting up till
	the end of the preliminary.
14	A. Up to end.
15	Q. But after that when the
16	next review began there was in fact a discussion
17	that took place that involved selecting an
18	appropriate person.
19	A. Right.
20	Q. Is that right?
21	A Yes.
	Q. And at that time you sugges
22	a number of names, and even enquired into the
23	backgrounds of a number of people in order to



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Now, sir, you gav

yesterday that your present opinion with respect to Baby Estrella is that that particular case is one that has a rather low index of suspicion?

the media today suggest some facts that simply are

A. Right.

Q. And I appreciate that is

But in any event the reports in

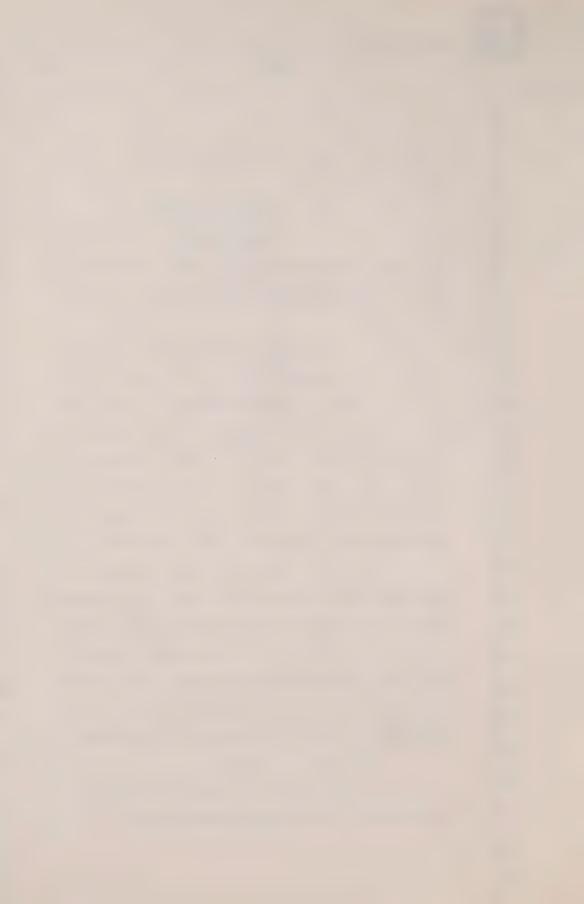
summarizing it down to the bare bones?

attempt to isolate a suitable candidate. Is that fair?

A. That is correct.

Q. Now, Doctor, I want to deal with the Estrella case and I want to go back over some of the ground that was covered by my friend Mr. Lamek.

Now I don't do this without some thought, Mr. Commissioner, but it appears that there may have arisen a misunderstanding in the course of Dr. Hastreiter's evidence yesterday with respect to what he knew at the time of the preliminary hearing, and that may or may not have been exacerbated by Mr. Scott's press conference on the matter which he apparently held yesterday.





Q. I am not trying to trick you with that or anything.

A. No.

Q. But that is a fair summary

of it?

A. I think we have to be very careful with the wording of these statements because ---Q. Sir, you will have to be

careful not just with me but with everybody else here.

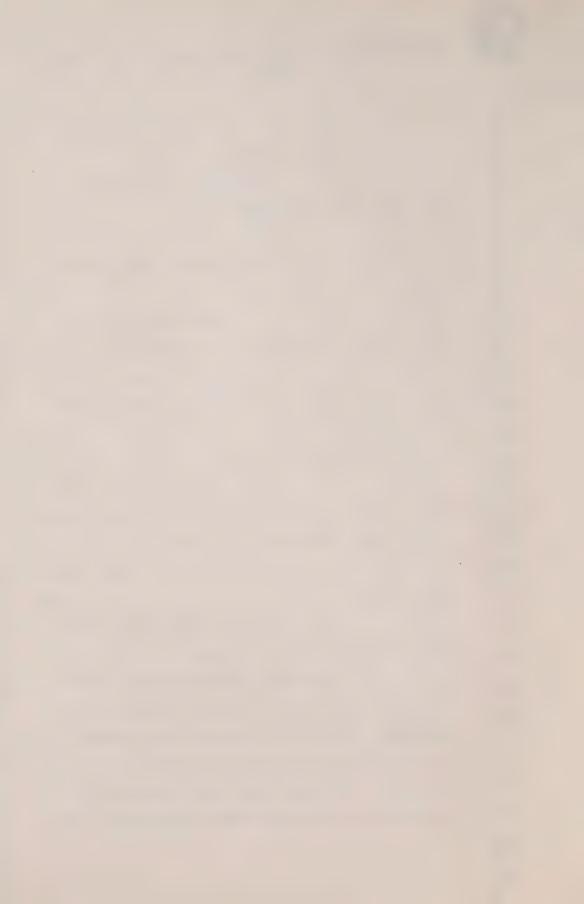
A. I agree.

Q. And I suggest that whenever anybody puts to you what you said, ask them for the page and make them show it to you.

A. Right. I have been frequently misquoted.

Q. I don't think it will have ended at this point either, sir.

All right. What I wanted to deal with first of all, sir, is the situation that existed at the time of the preliminary hearing insofar as your knowledge and understanding of the sample, and when I talk about the sample in Estrella, we are talking about the 72 level found



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in the sample taken from the pelvic cavity.

Now in giving your evidence yesterday at Volume 76, page 6705 and following, and I will just read a couple of questions and answers to you to sort of set the stage for some further questions.

At 6705, beginning about line 14, in direct examination by Mr. Lamek, you said - or the question was put:

> "O. All right. In neither your 1981 or your 1982 report, Dr. Hastreiter, do you make any reference to the possibility that the 72 nanogram level may be suspect because of the impurity of the sample in which it was measured. Were you aware of the source of the sample when you wrote your two reports?

> A. I think I became aware of the source of the sample at the preliminary hearing, at which time the sample was said to have been obtained from the abdominal cavity.

Yes. 0.

And I believe it had been thought to have been contaminated by



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mascitic possibly asciticor edema fluid or both. In my opinion at that time this contamination with ascitic or elema fluid should not have increased the concentration of digoxin in blood; I thought it was blood. Now, it was much later that I found out about this gutter blood hypothesis which I believe was validated eventually where it was found that gutter blood appears to concentrate digoxin to an extent that the concentration be as much as 2, 3, 4, 10 times higher occasionally, and that there was one instance in which the level was extremely high in gutter blood and not in heart blood.

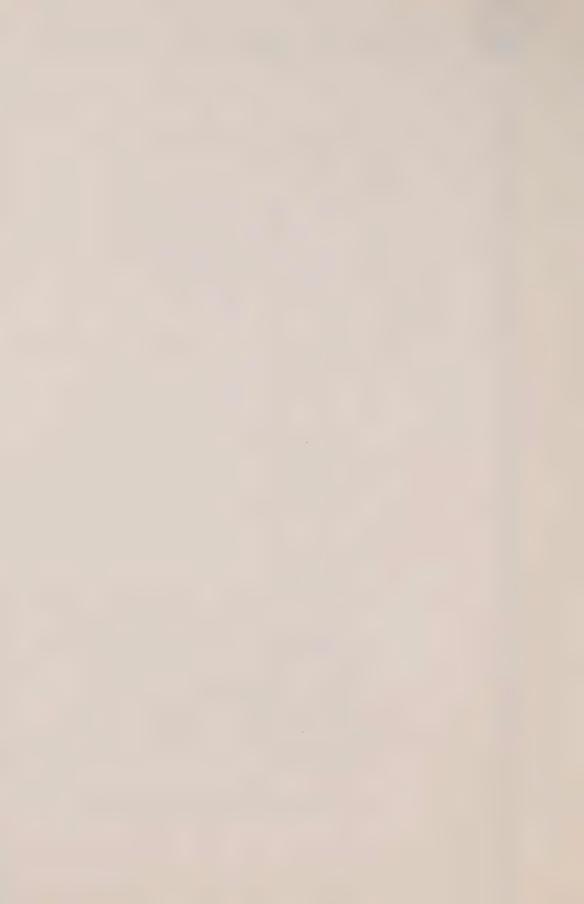
Q. You are referring there to what we call the gutter blood study?

A. The gutter blood study.

Q. Conducted by Mr. Cimbura in the Pathology Department at the Hospital?

A. Right.

Now that of course occurred much later



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"and I had no knowledge of it. This occurred after the preliminary hearing."

Now if I may just stop there for a

moment, sir, I suggest that at the time of the preliminary hearing when you gave your evidence there, you were aware as a result of evidence that had been given by Dr. Taylor that the sample was taken from the pelvic cavity, and that it may have been slightly contaminated by ddema and/or ascitic fluid, and that that possibility was one you considered at that time but in your opinion contamination from those sources ought not to have increased the concentration of digoxin in the blood.

Would that be a fair statement of what you were aware of and your position at the time you gave your evidence?

A. That is correct. I wasn't I didn't remember whether it was abdominal or
pelvic cavity, but otherwise it is accurate.

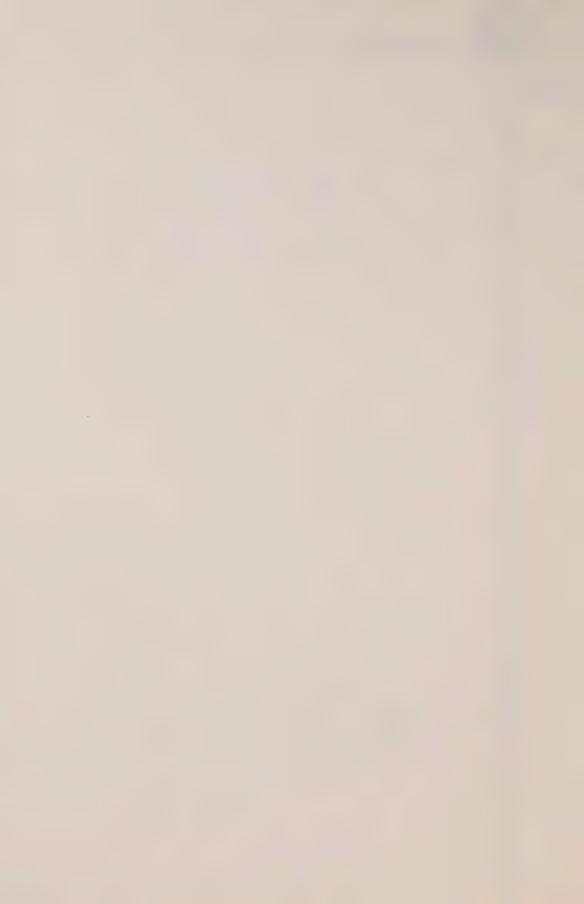
Q. All right. Now at the preliminary hearing Dr. Taylor testified and he testified in Volume 17 of that transcript, Mr. Commissioner, on February the 15th, 1982, and there are really three places in his evidence where he referred to the sample taken from the pelvic



cavity.

114, line 14, page 115, line 4 over to page 116, line 6, and page 121, line 4 through to line 21.

Those are on pages 113, line 29, to





GG M/PS Q. Now, without reading all that, if I can summarize it, and my friends have the transcript, so, they can correct me if I am wrong, in essence what Dr. Taylor says was that he obtained this particular sample from the pelvic cavity and that it was most likely contaminated with edema fluid from the tissues and ascites fluid from the cavity itself. Now, at that point in time, sir, Dr. Taylor made no reference whatsoever to possible contamination of this sample by any other substance such as fecal material or urine.

A. Correct.

Q. And is that your understanding then of the evidence that you were aware of by the time you testified at the preliminary hearing?

A. Yes

Now, also at the preliminary hearing and prior to you testifying Dr. Mancer also from the pathology department testified and that,

Mr. Commissioner, is found in Volume 2 and the particular -- which was on the 14th of January,

1982 and the particular portion I am referring to is Page 435 beginning at Line 10 over to Page 436 at Line 15. I won't read all of that, but in essence what Dr. Mancer says was that yes, he was aware that



the sample was contaminated but in his opinion the reading of 72 was probably low as a result of the contamination rather than it being artificially high as a result of it.

Now, is that your understanding of the evidence that you were aware of at the time you testified?

A. Yes.

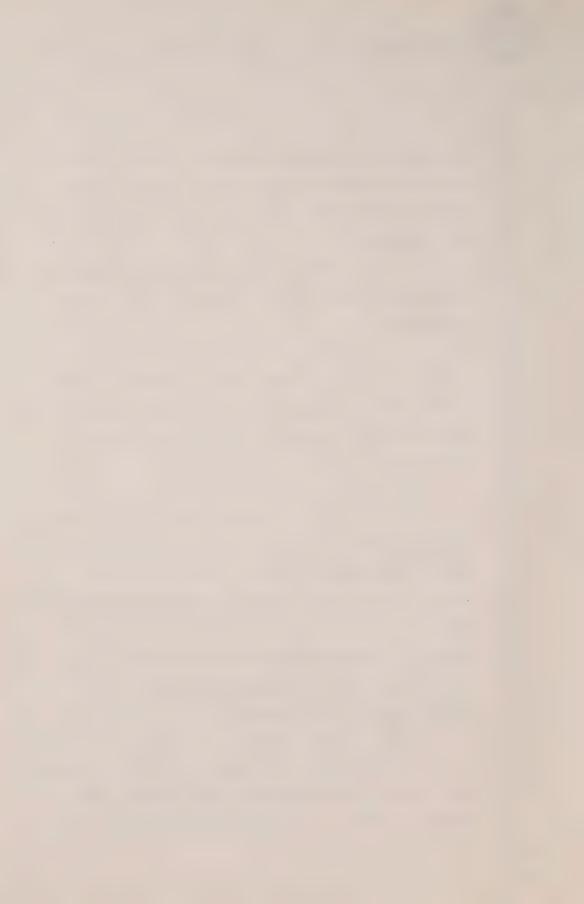
Q. So, sir, I suggest to you that at the time you gave evidence at the preliminary hearin; you were aware of where the sample was taken from in the body.

A. Yes

Q. You were aware as to what the evidence of the person who took it was, i.e., Dr. Taylor, with respect to what it might have been contaminated with and, that is, ascitic or edema fluid and you were aware that the opinion of Dr. Mancer from the pathology department was that that contaminated sample probably gave a lower reading as a result of the contamination.

A. Yes.

Q. All right. Now, the confusion, sir, may have arisen inasmuch as Dr. Taylor also testified here at these proceedings on October 3rd in





23.

Volume 43, Mr. Commissioner, and I am looking at Page 8634. He was asked by Ms. Cronk in direct examination whether there was in his view any risk of contamination. He indicated that the blood in the pelvic cavity was almost certainly contaminated with tissue fluid, ascitic fluid, and he went on to add probably water that was used to wash the body down, and then when asked anything else he said it is possible that even fecal material could have contaminated the fluid since the bowel was cut during the performance of the autopsy, urine is a possible contaminant.

Now, sir, I ask you whether prior to giving your evidence at the preliminary hearing you had heard anyone from the hospital suggest that the sample was contaminated with anything other than edema fluid or ascitic fluid?

A. No.

Q. Now, sir, the first time that -or could I ask you when was the first time that you heard
any suggestion that the sample was contaminated in
some way that made it unreliable?

about gutter blood so-called was at a meeting that
was held at the hospital following the preliminary
inquiry, following the completion of the inquiry.



I don't remember the exact date that it was held.

Q. So, this was after the preliminary hearing?

A. Yes.

Q. And this is at a meeting at the hospital. There is now information given to you that suggests this sample is unreliable.

A. No, this was only the first time I heard about the fact that they were doing some studies with gutter blood, what they called gutter blood, and they were planning, or were just starting to do studies in rats and they were also starting to collect some human samples, hypothesizing that possibly these samples would have -- this was a hypothesis then.

O. Yes.

A. Would have higher values of the digoxin than actual blood drawn from other locations. Subsequently at other meetings at the hospital, I don't remember the dates, unfortunately, but this was considerably later, I heard that they had collected some data now in rats and found that there was a multiplier; in other words, the gutter blood sometimes was several times higher than blood. However, the human studies, they had also done some and



I think Mr.Cimbura had analyzed some of these specimens
had never shown very high levels. The levels may have
been a little higher than blood, but I was never
terribly impressed by the magnitude of these levels.
It was only now at this hearing here that I found
out that they had one extraordinarly high level of
167, I believe, in a human case of gutter blood.

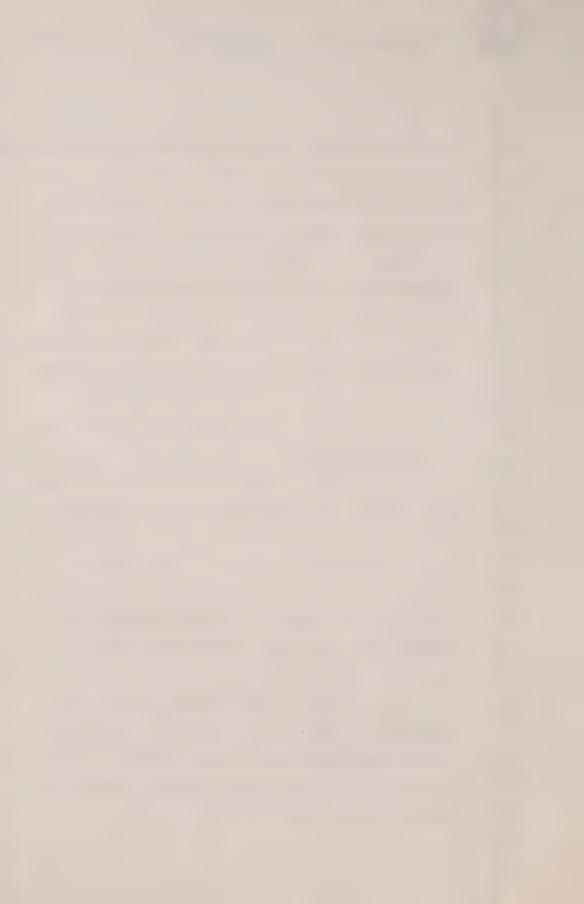
Q. The first time you ever heard about that was when you came here to give evidence?

A. Yes.

Q. All right. Well, we will get to that in a minute.

A. Yes. This was only one sample and I expressed my concern about it because I do not generally like to make judgments on the basis of just one isolated sample. However, I think in all fairness to this situation if the possibility exists then I think the value that we had attributed to our original sample has to be considerably less than it was.

Q. Well, we will get to that in a moment, but I want to ask you, sir. The evidence of Dr. Taylor that I read to you in Volume 43 concerning the taking of the sample was that, and I will just read the answer again:



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"It is possible that even fecal material could have contaminated the fluid since the bowel was cut during the performance of the autopsy, urine is a possible contaminant."

Have you ever heard it put by anyone any higher than that, that it is possible that fecal material or urine could be a contaminant?

A. No.

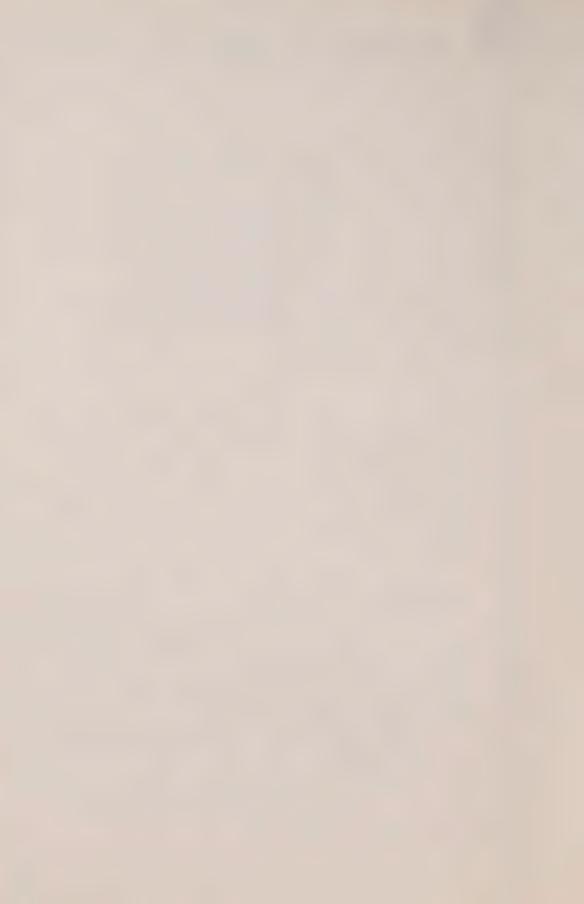
Q. All right. You see, the reason I raise the concern is when Dr. Taylor first testified at the preliminary hearing in early 1982, which is a year and a half before he testified here, he made no mention of the possibility of fecal material or urine.

A. No. In fact, I never heard this mentioned before.

Q. All right. Now, the study itself, sir, have you seen the results? This is the gutter blood study that the hospital and Mr. Cimbura conducted. Have you actually seen the results?

MR. ORTVED: That is Dr. Bennett's study, isn't it?

MR. HUNT: I'm sorry, my friend, I think he wants to speak to me.





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MR. SCOTT: No, no. Mr. Hunt can show him a copy, it is Mr.Cimbura's work and we have no objection if he sees a copy.

MR. LAMEK: It is in evidence.

MR. SCOTT: Yes, I know, but if Dr.

Hastreiter wants to see Mr. Cimbura's study I don't see any reason why he shouldn't.

MR. HUNT: I agree with my friend.

MR. SCOTT: The person to ask is Mr.

Cimbura.

THE COMMISSIONER: What's the exhibit

number?

MR. HUNT: No, my friend started off, his comments started off as, "Surely the Crown should have done something" and perhaps I jumped to the wrong interpretation of what my friend was suggesting.

Q. Sir, have you seen ---

A. I have only seen a portion of this study, I have not seen the whole study. In fact, I think all I saw was this one high figure and then I understand that this same specimen was from the same patient and was obtained three hours later and it was low, it was 17 instead of 167.

Q. All right.

THE COMMISSIONER: What is the



exhibit number?

23:

MR. HUNT: So, that is Exhibit 213,
Mr. Commissioner, and perhaps Mr. Elliot could provide
that exhibit to the witness.

MR. LAMEK: The last page of it.

MR. HUNT: Q. Yes, I think if you turn to the last page.

A. Yes.

Q. So, I take it, sir, the last page of Exhibit 213 is the page we are referring to. Is this the document that you saw prior to giving your evidence?

A. I don't remember having seen this document. Maybe I did, but if I did it was a very

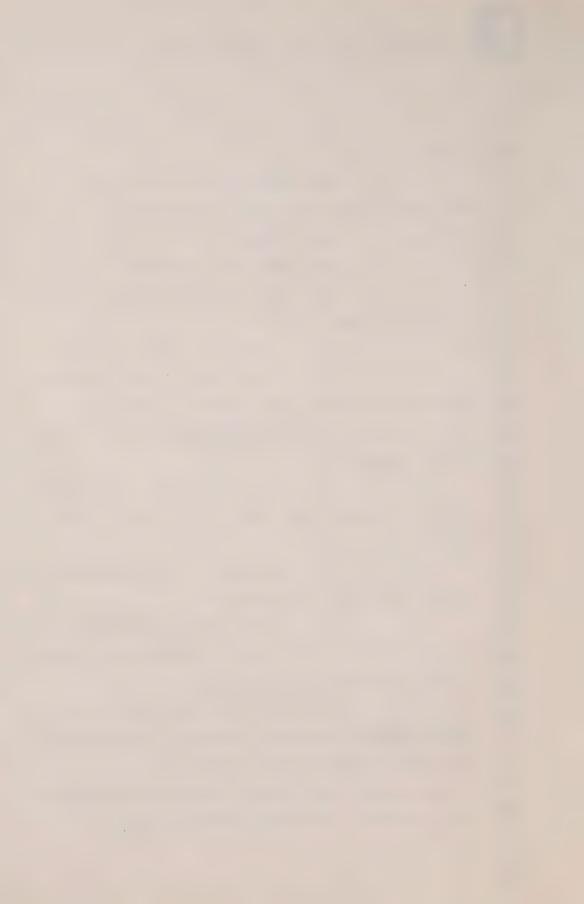
Q. Perhaps I had better make sure we are looking at the same page.

A. Yes. Yes, it is the same page.

Q. Yes, all right, we are looking

at the same page.

All right, sir. So, the fact that you may not remember seeing it, although I think perhaps this was the one that was shown to you, it suggests to me that you haven't really had a great opportunity to sit down and digest this particular study.





1			
2	A. No.		
3	Q. Am I correct		
4	that prior to coming here to testify you really		
5	haven't been involved with this Commission or this particular case since your work was completed back in the early part of this year, is that right?		
6			
	A. That's right.		
8	Q. All right. So, you saw the		
9	results of this study then on Monday of this week or		
10	Sunday perhaps.		
11	A. Yes. I know that I found out		
12	about this gutter blood study just a few days ago.		
13	Yes, Monday, I arrived here on Sunday, so		
	Q. All right.		
14	A. It must have been Monday or		
15	Tuesday.		
16	Q. Fine.		
17	A. And if I was shown this it		
18	must have been by Mr. Lamek or your staff there. I		

don't remember exactly who showed me.

MR. LAMEK: I showed you that sheet,

yes.

THE WITNESS: Yes, okay. So, I was shown

this sheet.

Q. All right. No, I wasn't suggesting

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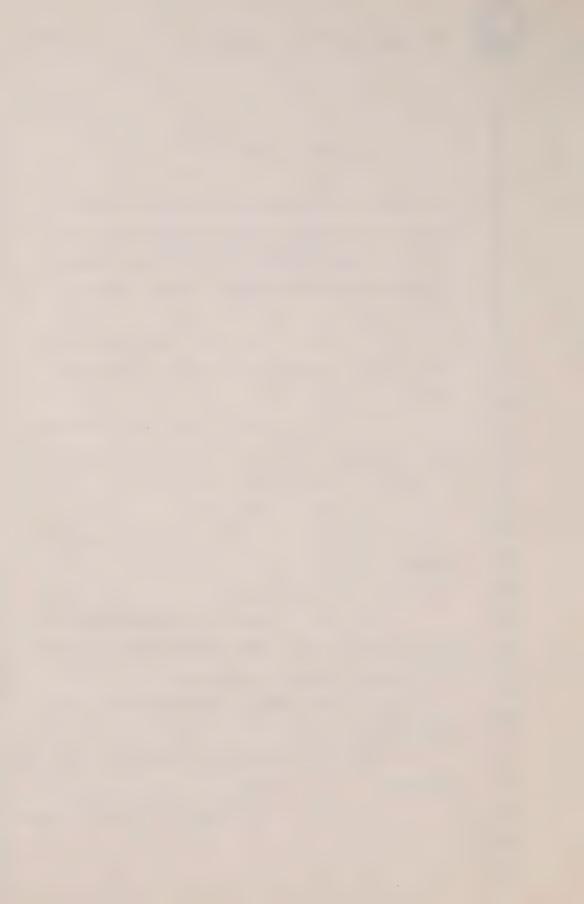
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you weren't, I didn't want to take that away from you.

What I am suggesting, sir, is that really you haven't

had the opportunity to this point in time to make

yourself fully aware of what this particular study

was all about or the views of the people who participated

in it.

about the study earlier, as I indicated, and I had an idea of what the study was about, but I haven't heard about any conclusions or results or data that were obtained from the study except, you know, for this sheet that was shown me.

Q. Yes. Then may I take it that it would certainly be something that you would prefer to do, is to become aware totally with respect to any study that you are asked to comment upon before you are asked to do so.

I had enough information to make a comment regarding the source of that one blood specimen because I knew that this was one specimen in which a comparison had been made with other bloods and where a high reading was obtained. I had an approximate idea of other comparisons that had been made and that this had never happened except in this one particular instance.



suspicion.

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But that to me is enough.

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Q. If I could just stop you there, sir. This study as you have just indicated had a significant impact on your position or your opinion with respect to Baby Estrella.

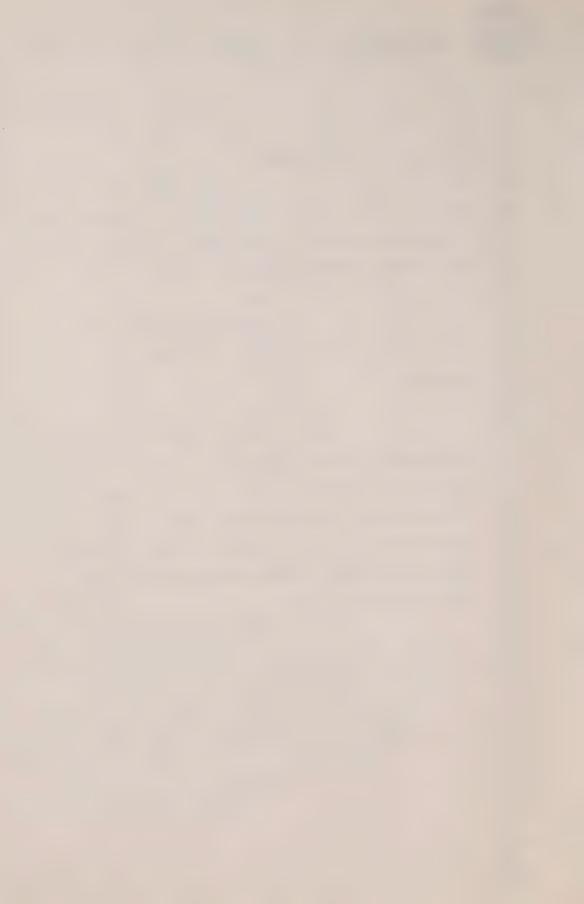
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Q. To the point where you reduced that to one of really a low index of

A. Yes.

Q. I take it that the reason that you reduced your index of suspicion with respect to Estrella is because of the fact that one sample in this particular study reflected a very dramatic increase in the level of digoxin in fluid from the pelvic cavity over and above blood from the heart and sagital sinus.

A. Right.



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 Ω . Now, have you had an opportunity to talk to Mr. Cimbura with respect to this particular study?

A. No, I have not.

Q. In preparing to give your evidence here, were you made aware of what Mr. Cimbura said to this Commission about the study?

A. I don't remember. I believe that he also felt that less significance should be placed upon this sample, the Estrella sample, because of this gutter blood finding, but I am not quite certain about that anymore.

Q. Well, I think perhaps to isolate this particular sample, I think Mr. Cimbura's evidence was that with the exception of Case No. 5 on that list, that all of the other concentrations did not exceed the values found in post mortem blood of infants who were on digoxin therapy.

A. Right.

Q. So, would you agree with that?

A. I don't know if I can agree

with it because I am not that familiar with it.

Q. This may be something you would have to spend some time looking at the study and the results of it before you would want to express an



Hastreiter ex. (Hunt)

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opinion.

A. Yes.

A. IES.

Q. With respect to this particular sample, I just put to you what Mr. Cimbura's evidence was here, and this is in Volume 52, Mr. Commissioner, at page 1697 through to 1698, and he was being examined on this by Mr. Lamek, line 4:

"Q. Well, can we say anything more than this, Mr. Cimbura, that Sample No. 5 or Case No. 5 at least indicates that blood from the pelvic cavity may yield a very high level which is not consistent with the levels found in blood elsewhere in the body?"

"A. That is correct, sir."

"Q. All right."

"A. And since it is only one out of 14 I would say it may with low level - small possibility."

"Q. A small possibility that it may?"

"A. That is correct."

"Q. Now, we know that the Estrella level of 72 was obtained from a sample drawn from the pelvic cavity. In light of your research and the numbers that are produced on this document,



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would you as a toxicologist, dismiss the 72 level as meaningless in light of the source from which it came?" "A. No, I would not dismiss it entirely, no."

"Q. I take it though, in light of Case No. 5, you could not place total confidence in it?"

"A. I could not place as much confidence in it as if the blood had been drawn from an intact vein."

"Q. Thank you."

Mr. Cimbura has indicated that you are quite right, he would not place as much confidence in this sample as if it had been drawn from an intact vein; but his evidence also was that inasmuch as this was one out of 14, there is a small possibility that blood from the pelvic cavity may yield a level which is not consistent with levels found elsewhere in the body.

Now you have already indicated I think to the Commissioner that in your opinion Mr. Cimbura was a very cautious man.

A. Right.

And he acted with best regard Q.



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to even small possibilities that existed in giving his opinion.

- A. Right.
- Q. Now, sir, inasmuch as -- I take it it would be helpful to you to know what the people involved in the study had to say about the impact it had on them, is that fair?
 - A. Yes, it would be.
- Q. So it is really almost essential to be fully informed about the opinions of those most closely connected with it, would you agree with me?
- A. I think it is more important to be informed about the study itself, but I think the opinions would help too.
- Q. Now essentially what we have heard is Dr. Taylor saying to this Commission, not-withstanding his evidence at the preliminary hearing, that there was a possibility the sample may have been contaminated by fecal matter or urine; and we have one case in the gutter blood study out of 14 that revealed an elevated level.

My suggestion to you, sir, is, bearing in mind the fact that you really have not had an opportunity to consider the full impact of this study,



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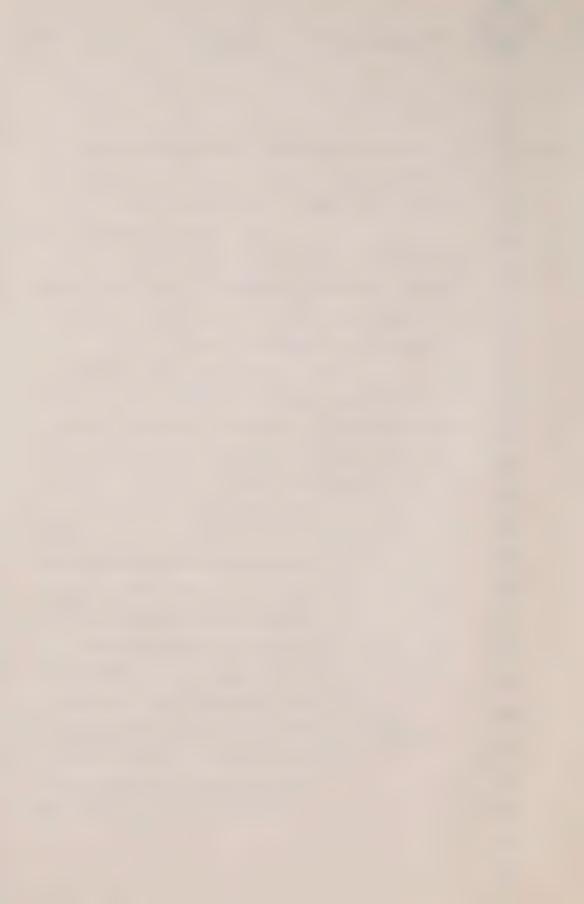
is that really sufficient material on which to completely alter the well thought out opinion that you had with respect to the Estrella case?

A. Well, perhaps I should look at my evidence on the Estrella case, because I don't believe I completely altered it. I did not discard this sample completely. I indicated that the index of suspicion is considerably lower.

Q. Yes, sir. Just to have it in front of you, yesterday in Volume 76, Mr. Commissioner, at page 6710, after my friend Mr. Lamek put to you the summary of the gutter blood study at line 12, you were asked the question:

"In light of that, do you now believe that you can properly and confidently rely upon the 72 nanogram level as a basis for an opinion that Janice Estrella died of digoxin intoxication resulting from an overdose?"

"A. I think it has weakened the case considerably and I don't believe that one can rely on this sample very strongly. I don't think one should completely eliminate it, but the index of suspicion becomes much



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lower now."

"Q. Are you suggesting that your index of suspicion may not be reduced entirely to the level that it would be on the basis of the clinical picture alone, but probably not very much above that?"

Now then you, sir, elaborated on that

"A. Right, I would say so."

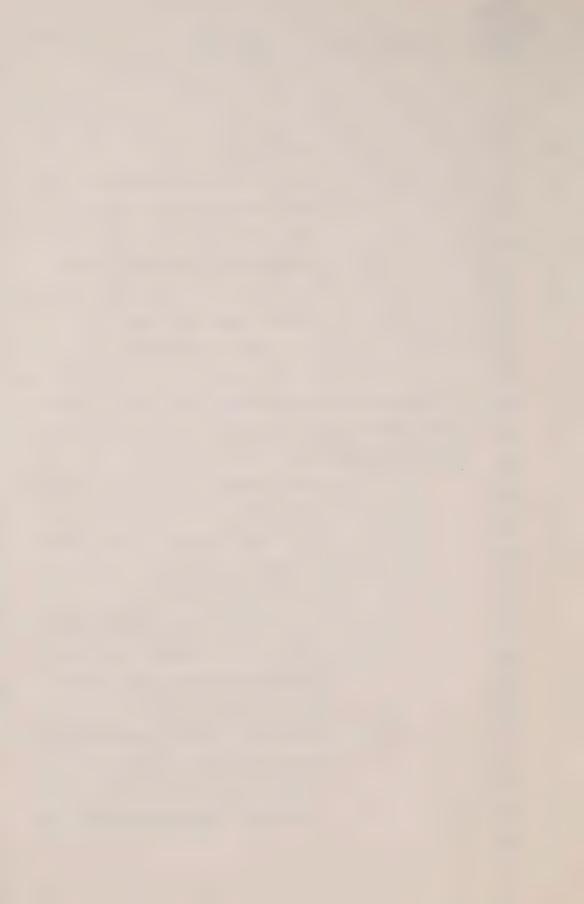
to an extent later in the day, and this is at page 6726, again dealing with Janice Estrella my friend asked you at line 5:

"What probably in your best judgment caused this child's death?"

"A. May I first say a word about the gutter blood again?"

"Q. Yes, of course."

"A. I am a little bit concerned about the fact that we only have one specimen of gutter blood that has really a very high level. A level above 100. All the others have levels which are below 15 I believe or certainly below 20, and are comparable — at least not very far



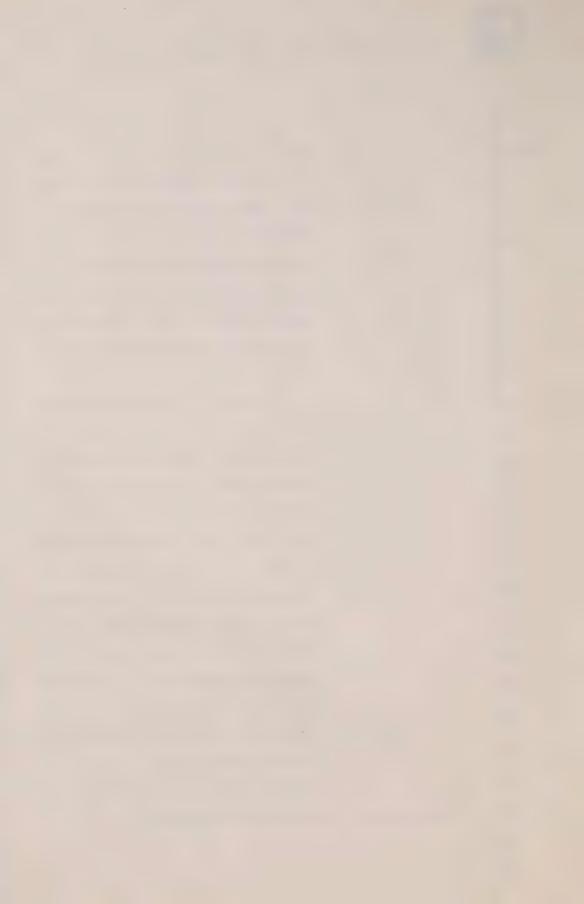
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from the levels of the heart blood.

So this concerns me a little bit, and I believe that further research really will be necessary to validate the fact that this gutter blood can be so out of proportion with the heart blood as far as the content of digoxin is concerned.

However, I do feel that the value of this sample has been reduced significantly, and in my opinion as I said earlier, this child had good medical reasons to die, and the blood level was really our major evidence for digoxin toxicity, so my present opinion will be that I would have a very low index of suspicion still of the possibility of an overdose. I would not completely eliminate this hypothesis, but I would feel that most likely death was caused by her original disease."

And that to the best of my ability is the evidence that you gave yesterday.



Hastreiter ex. (Hunt)

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Now, if I am being unfair in summarizing that by way of suggesting to you that you really have completely altered your view with respect to this case because of the gutter blood study then correct me.

A. I don't think I have completely altered my view. I think that this case was a situation of a baby who was very, very sick, as I explained yesterday. She was expected to die; eventually died, and this high blood level or high digoxin concentration was found in this one sample and this is what led us to call this a case of probable or very likely overdose; it was this one sample.

Now the reliability of this sample now has been questioned because of the work on the gutter blood. This information, of course, was not available at the time of the preliminary inquiry, and I think in all fairness the whole question here evolves about whether -- how reliable the sample is, how much emphasis should be placed on this sample or credit.

In my opinion the significance of the sample has been reduced considerably. I haven't thrown it out completely, but since this is our main piece of evidence for overdose, the only piece of



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evidence for overdose really that the clinical course did not help very much. I think that this is what I did, I changed my rating of this case from a very high level of suspicion to a low level of suspicion.

- Q. Very low level.
- A. This is a method of, you know, quantitation which is so difficult to do on the basis of one sample.
- am not trying to -- I am not trying to argue with you, to get into an argument with you, because I can appreciate the circumstances under which you had to give your opinion, being notified of the results of the study just before you testified, and not really having an opportunity to consider the whole impact of it, and I suggest that is not the ideal situation and I think you would agree with that.
 - A. Could you repeat that?
- Q. I suggest, sir, that having to give your opinion with respect to Baby Estrella and digest the impact of this study without an opportunity to fully consider it and discuss it with the people involved, what their impressions were, is not an ideal situation.
 - A. Yes. I would say it would have



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been helpful to have had the opportunity to discuss it.

MR. HUNT: Mr. Commissioner, I am not being critical of Mr. Lamek or Miss Cronk because I appreciate there are distance problems and time problems.

Ω. With respect to this, inasmuch as it is not the ideal situation, sir, are we really left with the fact that your opinion is changed based on Dr. Taylor's now statement that there was a possibility that the sample was contaminated with fecal matter or urine; and in addition to that possibility the fact that one case on a study done by Mr. Cimbura in the Hospital reflected an extremely elevated level?

A. Yes. If I had known about the contamination of the sample with fecal material at the time of the preliminary inquiry I would have been very concerned about this sample.



II EMT/PS Of course, I didn't know then about the other study, the gutter blood study.

Q. And you can't be faulted for that. You couldn't have known about the fecal material because none of us knew about it until Dr. Taylor ---

A. That is right.

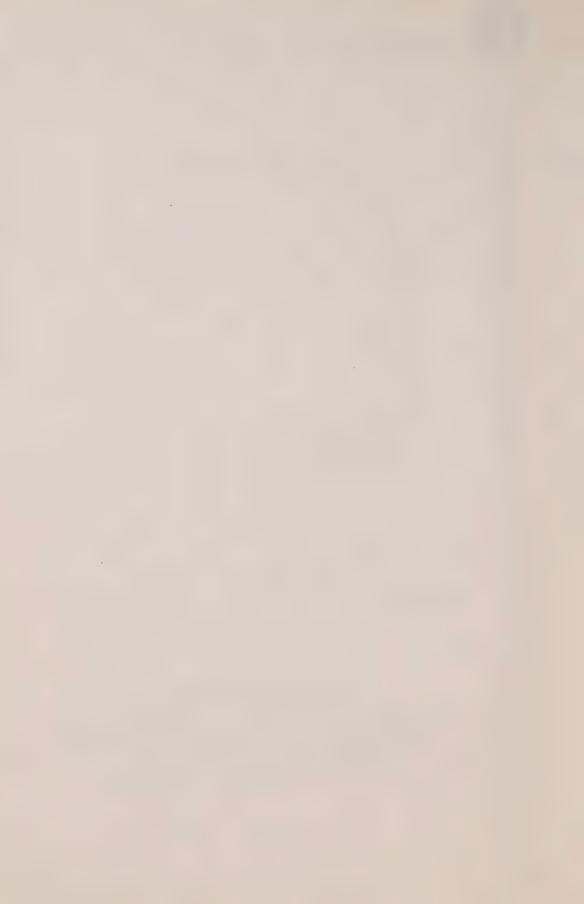
Q. -- came before this commission and testified a year and a half later.

A. But now we find out that there is a possibility, one out of 15 or 14, that this type of blood may be artificially, very, very high. And not only that, but the person who performed the study, Mr. Cimbura, in his testimony indicated that he was now concerned himself about the reliability of that one sample, and that he himself had lowered — in his mind the significance of that sample had been lowered.

I think I have to more or less agree with him.

It is possible that in the future further studies will show that, no, this was just an error; that such a sample was just a freak accident something, and perhaps will never happen again. I don't know.

Q. Right.



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A. But for the time being I think if it ever happens, then how can we, you know, justify making an important decision such as this on the basis of one sample of which we don't know the value, really.

All right. Just so that you are not under any misapprehension, I have perceived the difference between the significance that Mr. Cimbura attached to Page No. 5 and the significance that you attach to it, and I don't think the two can really be equated.

Mr. Cimbura said at Page 1697 in Volume 52 that as far as he was concerned the case No. 5 indicates a small possibility, small possibility, inasmuch as it was only one of 14 in the study; that blood from the pelvic cavity may yield a very high level inconsistent with blood from other places in the body.

So that it may be that you would prefer to agree with Mr. Cimbura with respect to the possibility that it may yield a higher level and rate that as small. I don't know. I appreciate you didn't know about Mr. Cimbura's evidence until today.

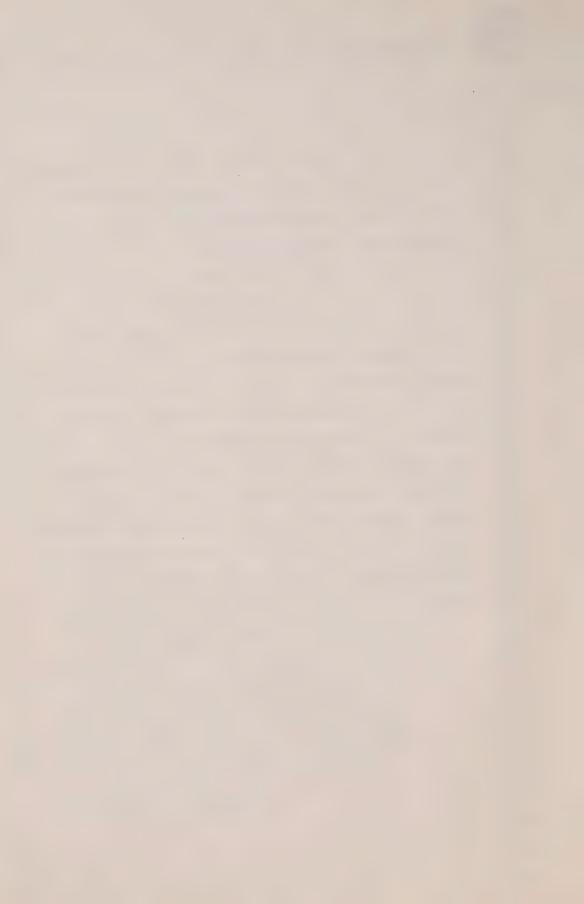
Α. Well, I will not change my opinion.



I think that if there is any possibility that this sample was an artefact of some kind, the value of that particular sample, the significance of that sample has been reduced.

- Q. All right.
- A. Considerably.
- Q. And that, sir, may just be a reflection of the caution that you yourself bring to the judgments that you have to make in this matter, but so that we have it clear the possibility that you act on in reclassifying Baby Estrella is Dr. Taylor's present evidence that it was possible that fecal material or urine got into the pelvic cavity, and the possibility, however small, as shown by the one case in fourteen pelvic blood may yield a higher level than blood taken elsewhere in the body.

A. That is correct.



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Q. All right.

THE COMMISSIONER: Can we leave that?

MR. HUNT: Would this be an appropriate

time to --

THE COMMISSIONER: Yes. I was waiting for a pause in that particular line of questioning, so I think we will rise now then until

Yes, Mr. Tobias?

MR. TOBIAS: It might be helpful at this point if we could get an indication from the counsel.

THE COMMISSIONER: All right.

Mr. Hunt?

MR. HUNT: Not very much longer, Mr.

Commissioner.

THE COMMISSIONER: All right.

MR. TOBIAS: I am happy you committed

yourself so definitively.

ten o'clock tomorrow.

MR. HUNT: Well, if the Commissioner ties us to the times --

THE COMMISSIONER: No, I am not going to tie you to the times in this case because Dr.

Hastreiter is coming back next week so it is not a problem.

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I think really what Mr. Tobias wants to know is whether he can go out on the town tonight.

MR. TOBIAS: That is precisely what I had in mind.

MR. HUNT: I don't think whatever I say would stop him, Mr. Commissioner.

THE COMMISSIONER: All right.

Mr.Young, how long will you be?

MR. YOUNG: Thanks to Mr. Hunt's

comprehensive cross-examination I don't expect to be any more than ten or fifteen minutes.

THE COMMISSIONER: All right.

Miss McIntyre?

MS. McINTYRE: I am quite honestly not sure but I don't think I will be very long.

THE COMMISSIONER: I don't know what I am to take of that.

MS. JACKMAN: I don't think I would be more than half an hour.

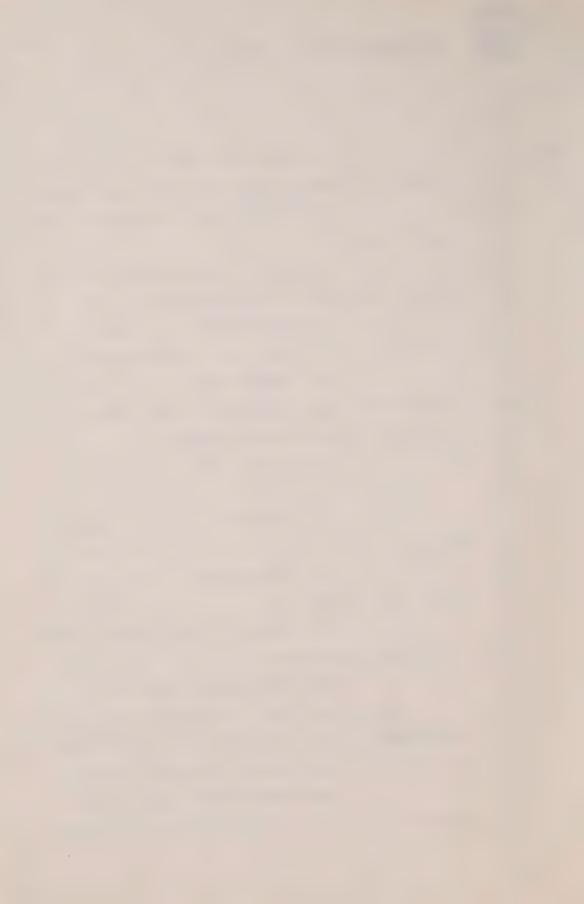
THE COMMISSIONER: Mr. Olah.

MR. OLAH: I am always pleased to help out Mr. Scott so I will be quite a bit longer than

Miss Jackman. I would expect to be about an hour.

THE COMMISSIONER: I think that

certainly covers the morning anyway, and then we are



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rising about twenty to four in the afternoon.

MR. TOBIAS: We are also supposed to

hear from Miss Forster and Mr. Brown.

THE COMMISSIONER: Yes. I had

forgotten all about you.

Now how long do you think you will be?

MS. FORSTER: Half an hour to an

hour, sir.

THE COMMISSIONER: Mr. Brown?

MR. BROWN: About half an hour.

THE COMMISSIONER: I think you are

probably safe but I don't make any promises.

MR. TOBIAS: All right, thank you,

Mr. Commissioner.

--- whereupon the hearing was adjourned at 4:50 p.m. until Thursday, the 8th day of December 1983, at 10:00 a.m.

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